UNIV OF
TORONTO
LIBRARY

Digitized by the Internet Archive
in 2008 with funding from
Microsoft Corporation

http://www.archive.org/details/halfyearlyabstra4951philuoft

H

THE

HALF-YEARLY ABSTRACT

OF THE

MEDICAL SCIENCES:

BEING

A DIGEST OF BRITISH AND CONTINENTAL MEDICINE,

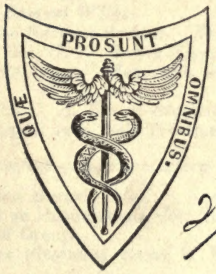
AND OF

THE PROGRESS OF MEDICINE AND THE COLLATERAL SCIENCES.

Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.
CICERO.

VOL. XLIX.-51

JULY, 1869.-70.



268659
1:7:32

PHILADELPHIA:
HENRY C. LEA.
1869.

Med
H



PHILADELPHIA:
COLLINS, PRINTER, 705 JAYNE STREET.

CONTENTS OF VOL. XLIX.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

ART.		PAGE
1.	On the Influence of Weather and Seasons upon Public Health. *Dr. Edward Ballard*	9
2.	The Treatment of Cholera and Diarrhœa. *Sir Thomas Watson, Bart., M.D.*	11
3.	Causes of Cholera. *Prof. Pettenkofer*	12
4.	Treatment of Gall-Stones. *Dr. T. H. Buckler*	13
5.	Hydatid Tumor of the Liver treated by Simple Puncture. *Dr. Duffin*	13
6.	The Symptoms of Thrombosis of the Cerebral Sinuses. *Dr. Hubner*	15
7.	On the Treatment of Scarlet Fever. *Dr. Peter Hood*	16
8.	On the Treatment of Scarlet Fever. *Dr. Charles T. Thompson*	17
9.	How to Prevent Typhoid Fever (otherwise called Gastric Fever, or Low Fever) from spreading. *Dr. William Budd*	18
10.	On the Treatment of Typhoid Fever by Creasote. *M. G. Pécholier*	19
11.	The popular idea of Counter-Irritation. *Dr. Francis E. Anstie*	19
12.	Remarks on the Natural History of Rheumatic Fever. *Dr. William W. Gull and Henry G. Sutton*	20
13.	The Treatment of Acute Rheumatism	26
14.	Tables Illustrating the Effects of Remedies upon Uncomplicated Acute Rheumatism. *Dr. W. H. Dickinson*	27
15.	Opinions of Irish Physicians on the Treatment of Acute Rheumatism.	34

SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(a) *Concerning the Nervous System.*

16.	On Headaches	39
17.	Narcotic Snuffs in Headache and Facial Neuralgia. *Dr. Raimbert*	40
18.	A Case of Stomachal Vertigo subsiding under treatment. *Dr. Buzzard*	40
19.	On Nervous Dyspepsia. *Dr. Arthur Julius Pollock*	42
20.	Treatment of Delirium Tremens. *Dr. William M'Crea*	43
21.	On Organic Affections and Injuries of the Spinal Cord, producing some of the Symptoms of Spinal Hemiplegia. *Dr. C. E. Brown-Séquard*	44
22.	On Going to Sleep. *Mr. Charles H. Moore*	45
23.	Progressive Muscular Atrophy, with complete Paralysis of the Extremities; Cure by means of the Continuous Current. *Dr. Nesemann*	46
24.	Treatment of Chorea. *Dr. Samuel Wilks*	47
25.	Progressive Muscular Atrophy. *Dr. Samuel Wilks*	48
26.	Lead Paralysis. *Dr. Samuel Wilks*	50
27.	Mercurial Paralysis. *Dr. Samuel Wilks*	50
28.	Treatment of Diseases of the Nervous System. *Dr. Samuel Wilks*	51
29.	Pathogenesis of Epilepsy. *Dr. C. E. Brown-Séquard*	53
30.	On the Treatment of "Epileptiform" Neuralgia in its Earlier Stages. *Dr. Francis E. Anstie*	53
31.	Treatment of Epilepsy. *Dr. C. E. Brown-Séquard*	54
32.	Cases of Epilepsy, and Remarks upon their Treatment. *Dr. Beigel*	54

(b) *Concerning the Respiratory System.*

33.	On Pneumonia. *Dr. Hughes Bennett*	55
34.	Thermometric Observations on Pneumonia. *Dr. Thomas Wrigley Grimshaw*	56
35.	Sulphur in the Treatment of Croup	57
36.	The Use of Chestnut-Leaves (Castanea visca) in Whooping Cough. *Dr. J. Ludlow*	57
37.	Sulphuret of Potash in Whooping Cough. *Dr. Mackelcan*	58
38.	On the Treatment of Asthma by Belladonna. *Dr. Hyde Salter*	58
39.	Hemorrhagic Phthisis. *Dr. Hermann Weber*	60
40.	On the Treatment of Phthisis by Prolonged Residence in Elevated Regions. *Dr. Hermann Weber*	62
41.	The Hypophosphites in Consumption. *Dr. J. F. Churchill*	65
42.	Inhalation of an Aqueous Solution of Carbolic Acid under the form of Spray for the Treatment of Phthisis. *Dr. William Marcet*	66

(c) *Concerning the Circulatory System.*

ART. PAGE

43. Atrophy of the Heart. *Dr. N. Finn* 67
44. Diagnosis of Polypi of the Heart. *Dr. Benjamin W. Richardson* . . 67
45. On a Case of Hemorrhagic Pericarditis treated by Double Puncture of the Pericardium. *M. Henri Roger* 68
46. Effects of Rowing upon the Circulation. *Dr. T. R. Fraser* 71
47. On the Development of Cardiac Diseases in consequence of Bodily Exertions *Dr. Thurn* 71

(d) *Concerning the Alimentary System.*

48. Sea-Sickness Prevented or Cured by the Spinal Ice-Bag. *Dr. John Chapman* . 72
49. Cure of Sea-Sickness. *Dr. Dwinelle* 74
50. Treatment of Dysentery. *Dr. C. A. Gordon* 74
51. A New Treatment for Chronic Dysentery. *Dr. E. Malcolm Morse.* . . 74

(e) *Concerning the Genito-Urinary System.*

52. Early Signs of Nephritic Irritation. *Dr. Owen Rees* 75
53. Diabetes Mellitus successfully Treated by Opium without Restriction of Diet. *Dr. Frederick Pavy* 76
54. Cure of Albuminuria by Iodide of Calcium. *M. Baudon* 77
55. Etiological Relationship of Bright's Disease of the Kidneys and Scarlet Fever 78
56. Peroxide of Hydrogen in Diabetes. *Mr. S. J. Bayfield* 78

(f) *Concerning the Cutaneous System.*

57. The Diagnosis of Eczema. *Mr. Erasmus Wilson* 79
58. Treatment of Eczema. *Mr. G. Borlase Childs* 79
59. Treatment of Eczema. *Dr. W. Cory* 80
60. Notes on the Treatment of Favus. *Dr. Henry Samuel Purdon* . . . 80
61. Treatment of Psoriasis by Balsam of Copaiba. *Dr. Frederick Simms* . . 80
62. On Cutaneous Symptoms in Pyæmia 81
63. On Lupus Erythematosus. *Mr. Erasmus Wilson* 82
64. A Note on the Use of Sulphur in Itch. *Dr. Tilbury Fox* 86
65. Method of Applying Nitrate of Silver in Erysipelatous Inflammation. *Mr. John Higginbottom* 86
66. On the Application of Oil of Turpentine for Parasitic Affections of the Skin, and for Traumatic Erysipelas. *Profs. K. Von Erlach and E. Lücke* . 87
67. On the Pathological Anatomy of Erysipelas. *R. Volkmann and F. Stendener* 87
68. On the Action of Arsenic on the Human System, especially in reference to its Use in Diseases of the Skin. *Mr. Thomas Hunt* 88
69. On Cutaneous Angioneuroses. *Mr. Albert Eulenberg* 91
70. Notes on Dermatalgia. *Dr. H. F. Purdon* 91
71. The Treatment of Ichthyosis. *M. Lailler* 92
72. On the Oleum Sabinæ in Alopecia Pityrodes. *Dr. Pincus* 93

Sect. III.—Forensic Medicine.

73. An Antidote to Snake-Poison 93
74. The Treatment of Snake-Bites. *Dr. Berncastle* 94
75. Carbolic Acid a Cure for the Bites of Venomous Snakes 95
76. The Physiological Effect of Snake-Bite. *Dr. Joseph Jones* 95
77. Morbus Saturninus (Lead Poisoning). *Dr. William Frank-Smith* . . 96
78. The Ordeal Poison-nut of Madagascar 97
79. Antidote to Carbolic Acid 97
80. Detection of Strychnia in Poisoning Cases. *M. Cloetta* 97
81. A Case of Poisoning by Stramonium, and novel way resorted to to produce Vomiting. *Mr. J. J. Hillary* 98
82. Case of Poisoning by Arsenic externally applied. *Dr. Thomas Graham* . 98
83. On Poisoning by Lobelia. *Dr. Charles Meymott Tidy* 100
84. To Prevent Death by Chloroform 101
85. On a New and Simple Method of Inducing Artificial Respiration in Cases of Asphyxia from Drowning, Strangulation, Chloroform, Poisonous Gases, &c. *Dr. W. P. Bain* 101

Sect. IV.—Therapeutics.

86. General Principles of Neuro-Therapeutics. *Dr. John Chapman* . . . 102
87. Therapeutics of Pain. *Dr. W. A. Hammond* 104
88. On the Diagnostic Value of the Ophthalmoscope in "Tubercular" Meningitis. *Dr. T. Clifford Allbutt* 105

ART. PAGE
89. On Auscultation of the Œsophagus applied to the Diagnosis of the Affections of this Organ. *Dr. C. W. Hamburger* 105
90. Some of the Uses of Bismuth. *Dr. W. F. McNutt* 107
91. Intellectual Work and the Temperature of the Head. *Dr. J. S. Lombard* . 108
92. A Visit to some of the German Spas: Teplitz. *Dr. J. M'Call Anderson* . 108
93. On the Administration of Food and Medicine by the Nose when they cannot be given by the Mouth. *Dr. Anderson Moxey* 109
94. On the Use of Ipecacuanha. *Dr. Weigersheim* 109
95. On the Action of Tartar Emetic in small and long-continued Doses. *Dr. A. Nöbiling* 110
96. On the Alleged Narcotic Properties of Narcein. *Drs. G. Fronmüller and S. Kersch* 111
97. On the Action of Papaverin. *Dr. K. B. Hofmann* 111
98. Carbolic Acid: its Doses and Medicinal Value. *Dr. Henry William Fuller* . 112
99. The Internal Use of Carbolic Acid 112
100. Carbolic-Acid Treatment of Suppurating and Sloughing Wounds and Sores. *Mr. John Wood* 114
101. Carbolic Acid in the Sickness of Pregnancy. *Mr. Edward Garraway* . . 116
102. The Double Salts of Carbolic Acid 117
103. Physiological Action of the Bromide of Potassium. *Dr. Bowditch* . . 117
104. Bromide of Potassium and Antimony in Puerperal Convulsions. *Dr. T. N. Simmonds* 118
105. Cases Illustrating the Use of the Bromide of Potassium in Drachm Doses. *Dr. Daniel G. Burr* 118
106. On the Chloracetic Acid as a Caustic. *Dr. Urner* 119
107. On the Sanguinaria Canadensis. *Dr. Victor Von der Espt* 119
108. On the Employment of the Neutral Acetate of Potash in Acute and Chronic Gastro-Intestinal Discharges. *Dr. Marotte* 120
109. On the Comparative Action of Preparations of Iron which are considered as Tonics. *Dr. J. Jeannel* 121
110. Lobelia in Rigid Os and Perineum. *Dr. George Kelner* 122
111. Therapeutical Employment of Opium Smoking. *M. Armand* . . . 122
112. Syrup of Iodide of Iron and its Preservation 123
113. Tobacco as an Hypnotic in a Case of Chronic Wakefulness. *Dr. E. A. Hervey* 123
114. Tobacco Smoke in Intestinal Obstructions 123
115. Sulphurous Acid in the Treatment of Pyrosis. *Dr. Henry Lawson* . . 124
116. On Veratrum Viride considered as a Therapeutical Agent. *M. Oulmont* . 124
117. On the Value of the Nitrate of Lead in the Treatment of Sore Nipples. *Dr. J. G. Wilson* 124
118. Sulphite of Soda and Sulphite of Ammonia in Intermittent Fever. *Dr. W. J. Chandler* 125
119. The Oil of Yellow Sandal-Wood in the Treatment of Gonorrhœa. *Dr. H. W. A. Beach* 125
120. Phenic Acid in Syphilis. *Dr. Minteforte* 126
121. Injections of Corrosive Sublimate for Constitutional Syphilis 126
122. On the External Use of Nitrate of Silver in Orchitis. *Mr. E. Noble Smith* . 127
123. Nitrate of Silver in the Treatment of Uterine Polypi. *Dr. M. M. Eaton* . 127
124. On the Use of Coffee in Strangulated Hernia 127
125. On the Therapeutical Value of Peroxide of Hydrogen. *Dr. Benjamin W. Richardson* 128
126. The Hypophosphites in the Toothache of Pregnancy. *Dr. W. H. Sterling* . 129
127. Papaverin in Mental affections. *Drs. Leidesdorf and Breslauer* . . . 129
128. Muriate of Lime in Chorea 130
129. Antigalactic Properties of Belladonna 130
130. The Theory of the Dissolution of Calomel in the Organism. *M. Jeannel* . 130
131. Report of the Edinburgh Committee on the Action of Mercury, Podophylline, and Taraxacum on the Biliary Secretion. *Dr. John Bennett* . . . 131
132. Curare in Trismus and Tetanus. *Prof. Busch* 132
133. Tetanus Treated with Calabar Bean. *Drs. Boslin and Curren* . . . 133
134. Treatment of Traumatic Tetanus by Calabar Bean. *Mr. C. Holthouse* . . 133

PART II.—SURGERY.

Sect. I.—General Questions in Surgery.

135. On the Treatment of Carbuncle. *Mr. James Paget* 135
136. Experimental Studies on Burns. *Dr. Gustave Wertheim* 136
137. On the Treatment of Wounds by the Application of Carbolic Acid on Lister's Method. *Mr. Timothy Holmes and Mr. W. B. Holdernesse* . . . 137
138. On the Antiseptic Treatment of Wounds. *Dr. William MacCormac* . . 137

ART. PAGE
139. A new Surgical Dressing. *Dr. D. Hayes Agnew* 138
140. The Treatment of Joint-Affection by Continued Extension. *Prof. Volkmann* 139
141. Forced and Prolonged Flexion of the Limbs in Traumatic Hemorrhage. *M. Von Adelmann* 139
142. On the Treatment of Suppurating Joints by Free Incisions. *Mr. Thomas Bryant* 140
143. A Case of Tetanus following Compound Fracture of the Arm; Recovery. *Mr. Tatum* 140
144. Researches on the Results of Section and Resection of Nerves in relation to the state of Sensibility of the Integuments and of the Peripheral Extremity of the Divided Nerve. *MM. Arloing and Tripier* 142
145. Acute Rheumatic Affections of the Joints: their Pathology and Treatment. *Mr. William Adams* 143
146. On the so-called Subcutaneous Condyloma. *Prof. H. Zeissl* 149
147. On Pyæmia or Suppurative Fever; being the Astley Cooper Prize Essay for 1868. *Dr. Peter Murray Braidwood* 150
148. On the Causes of the Danger of Congestion Abscesses, and on their Treatment. *A. H. Schoemaker* 151
149. On a New Method of Evacuating Fluid Collections. *M. Verneuil* . . . 152
150. On Tumors. *Dr. C. Heitzmann* 153
151. Is Cancer a Blood-Disease? 155
152. On a New and Successful Mode of Treating Certain Forms of Cancer. *Dr. Alexander Marsden* 156
153. On Syphilis. *Dr. E. H. Gregory* 157
154. On Inoculation of Syphilis. *Dr. Vincenzo Tanturri* 159
155. On the Local Treatment of Syphilis. *Prof. Sigmund* 160

Sect. II.—Special Questions in Surgery.

(a) *Concerning the Head and Neck.*

156. Two Cases of Trephining. *Dr. Copmann* 162
157. On the Origin by Contagion of Catarrhal Conjunctivitis. *Prof. Gosselin* . 164
158. On the Treatment of Chronic Granulations of the Conjunctiva. *Prof. J. Soelberg Wells* 164
159. On Disturbances of Vision Consecutive to Morbid Changes in the Teeth and to Operations performed on these Organs. *M. Augias-Turenne* . . . 166
160. On Tubercles of the Retina and Choroid as Diagnostic Signs of Tubercular Meningitis. *M. Bouchut* 167
161. On the Ophthalmic Signs of Constitutional Disease. *Mr. Ernest Hart* . . 167
162. On the Treatment of Granular Ophthalmia and Pannus by Inoculation. *Mr. J. G. Hildige* 168
163. On Optic Neuritis and Perineuritis. *Dr. Xavier Galezowski* 168
164. Treatment of Disease of the Lachrymal Sac. *Prof. Alfred Graefe* . . . 169
165. Treatment of Stricture of the Lachrymo-nasal Passages by Internal Division. *Dr. Warlomont* 170
166. The Application of Artificial Eyes (Prothesis Oculi). *Prof. J. Soelberg Wells* 170
167. A Case of Calcification of the Choroid, Ciliary Processes, Crystalline Lens, and Capsule. *Dr. Charles A. Hart* 171
168. An Improvement upon Politzer's Method of Injecting Air into the Eustachian Tubes in Certain Cases of Deafness. *Dr. John Brunton* 172
169. Pruritus Cutaneus of the Meatus Auditorius. *Dr. Gruber* 173
170. The Caustic Treatment of Purulent Catarrh of the Ear. *Prof. Schwartze* . 173
171. Mechanical Dilatation of the External Meatus of the Ear, with Compression of its Lining Membrane in Cases of Otitis Externa Acuta. *Dr. J. Gottstein* . 175
172. On Cancrum Oris. *Dr. Thomas R. Glynn* 175
173. Case of Salivary Calculus: with Remarks. *Mr. Joseph Bell* 177
174. Removal of the Entire Tongue. *Dr. Fenwick* 178
175. On Tracheotomy in Syphilitic Lesions of the Respiratory Passages. *M. Ulysse Trélat* 178
176. On the Statistics of Ligature of the Subclavian Artery 179
177. Case of Lipoma Nasi. *Mr. Hulke* 180
178. On Popliteal Aneurism occurring in Diabetic Patients, and on its Treatment by Forcible Flexion. *M. Verneuil* 180
179. Treatment of Derbyshire Neck 181

(b) *Concerning the Trunk.*

180. On Pleuritic Effusions and Thoracentesis. *Prof. Duprè* 181
181. Aortic Aneurism: Probable Cause of its great Prevalence in the Army Compared with the Navy and Male Population, and Consequent Remedy. *Mr. A. B. R. Myers* 183

ART.		PAGE
182.	On Resection of the Ribs. *M. Demarquay*	184
183.	Treatment of Lateral Curvature of the Spine. *Mr. Bernard E. Brodhurst*	184
184.	Spina Bifida; Injection of Iodine; Recovery	186
185.	On Kelotomy without Reduction. *Dr. Marc Girard*	186
186.	Purgatives in Strangulated Femoral Hernia. *Dr. William Stokes*	187
187.	A Case of Lumbar Hernia. *M. Hardy*	190
188.	Note on the Cure of Acute Orchitis in Twenty-four Hours. *Mr. Furneaux Jordan*	190
189.	On Nephrotomy as a Means of Treating Renal Calculus. *Mr. Thomas Smith*	190
190.	The Painless Removal of Hæmorrhoids. *Mr. Holmes Coote*	191
191.	Obstinate Cases of Acute and Chronic Gonorrhœa Successfully Treated by Injections of Glycerine and Tannin. *Mr. J. D. Hill*	192
192.	Fission and Extroversion of the Bladder and Epispadias, with the Results of Eight Cases Treated by Plastic Operations. *Mr. John Wood*	193
193.	Catarrhus Vesicæ	195
194.	Urethrotomy. *Dr. Jüngken*	195
195.	On Vesical Absorption in the Healthy Subject. *M. E. Ségalas*	196
196.	Diagnosis of Chancre. *Mr. Berkeley Hill*	196
197.	On Prolonged Extension, and on Pain in Coxalgia. *Dr. Hennequin*	198
198.	A Safe and Effectual Operation for the Radical Cure of Varicocele. *Dr. Paul F. Eve*	199
199.	On Spermatocele. *Dr. F. Stendener*	199
200.	Recent Experience in Ovariotomy. *Mr. T. Spencer Wells*	200
201.	A Third Series of 100 Cases of Ovariotomy, with Remarks on Tapping Ovarian Cysts. *Mr. T. Spencer Wells*	205
202.	Cases of Ovariotomy. *Mr. Thomas Keith*	206

(c) *Concerning the Upper Extremity.*

203.	Reunion of a Phalanx which had remained detached from the Finger for three-quarters of an hour. *Dr. Goschler*	209
204.	On the Treatment of Compound Luxation of the First Metatarsal Bone *MM. Blanquinque and Lassalas*	210
205.	On Compound Dislocation of the Elbow-Joint *Dr. Theophilus Mack*	210
206.	On the Checking of the Movements of Supination and Pronation After Cure of Fractures of the Forearm. *Prof. R. Volkmann*	210
207.	On Fractures of the Olecranon without Separation of the Fragments and without upward Displacement of the Superior Fragment. *Prof. Bardinet*	212
208.	On Excision of the Elbow. *Dr. George Buchanan*	213
209.	On Excision of the Elbow-Joint for Injury. *Mr. C. F. Maunder*	213
210.	On a New Operation for Cancer of the Breast. *Dr. Richard Sweeting*	214

(d) *Concerning the Lower Extremity.*

211.	Putting-up Fractures of the Leg. *Mr. James Paget*	214
212.	Neuralgia of the Internal Saphenous Nerve. *M. Bousseau*	214
213.	Perforating Ulcer of the Foot	214
214.	Suture of the Tendo Achillis. *M. Delore*	215
215.	Treatment of Talipes Vasus *Mr. Bernard E. Brodhurst*	215
216.	The Treatment of Talipes Valgus. *Mr. Bernard E. Brodhurst*	217
217.	Talipes Calcaneus. *Mr. Bernard E. Brodhurst*	218
218.	On the Treatment of Talipes. *Dr. Louis Bauer*	218
219.	Loose Cartilage in the Knee-joint; Extraction by the Direct Method; Recovery. *Mr. Alfred Poland*	220
220.	On the Treatment of Hygroma of the Patella, and of Hydrarthrosis by Forcible Compression. *Prof. Volkmann*	221
221.	On Resection for Knee-Joint Disease in Children. *Dr. König*	222
222.	On Resection of the Knee-Joint. *L. Stromeyer*	224
223.	On Resection of the Knee-Joint	224
224.	On the Condition of the Limb After Excision of the Knee-Joint, in Four Cases. *Mr. Henry Smith*	225
225.	On Resection of the Tibio-Tarsal Articulation. *Dr. E. Spillman*	226
226.	On Gonorrhœal Sciatica. *M. Al. Fournier*	227
227.	Case of Dislocation of the Hip-Joint; Reduction without Pulleys. *Mr. Hulke*	229
228.	On Excision of the Hip-Joint. *Dr. John Ashhurst, Jun.*	230
229.	On the Indications and Contra-Indications for Resection of the Hip-Joint in Cases of Caries. *Dr. R. R. Good*	230
230.	On the Conservative Treatment of Gunshot Fractures of the Femur. *Dr. Gritti*	233
231.	In-Growing Toe-Nail: Hospital Out-Patient Practice.	234

PART III.—MIDWIFERY.

Midwifery and Diseases of Women and Children.

(a) *Concerning Pregnancy and Parturition.*

ART.		PAGE
232.	On the Mask of Pregnant Women: Ephelis. *M. D. Jeannin*	237
233.	On the Direction of the Uterus in the Adult Female. *M. Panas*	238
234.	On Improved Methods of Inducing and Accelerating Labor. *Dr. Robert Barnes*	239
235.	The Induction of Premature Labor. *Dr. Robert Barnes*	239
236.	On the Induction of Premature Labor. *Dr. John Brunton*	240
237.	The Cæsarian Section. *Dr. Robert Barnes*	242
238.	The Cæsarian Section: the Operation: the Instruments and Assistants. *Dr. Robert Barnes*	244
239.	The Cæsarian Section: the Dangers of the Operation and Prognosis. *Dr. Robert Barnes*	246
240.	Studies on Gastro-hysterotomy. *Dr. Giuseppe Testa*	247
241.	Mechanism of the Fall of the Umbilical Cord. *M. de Lignerolles*	248
242.	Injections of Morphia in the Pains and After-pains of Labor. *Dr. Ernest Kormann*	249
243.	Expulsion of a Fibrous Tumor after Parturition	249
444.	On the Value of Perchloride of Iron in Post-partum Hemorrhage. *Mr. Hugh Norris*	250
245.	On Cephalotripsy. *Dr. Robert Barnes*	250
246.	On Certain Dangers which Attend the Operation of Craniotomy. *Dr. Robert Barnes*	252
247.	On Rupture of the Uterus during Labor. *M. J. Jolly*	253
248.	The Introduction of Air into the Uterine Veins. *Dr. Julius M. Klob*	253

(b) *Concerning the Diseases of Women.*

249.	On the Treatment of Imperforate Hymen. *Dr. Copeman*	254
250.	On the Treatment of Pruritus of the Vulva. *M. Noel Gueneau deMussy*	256
251.	Uterine and Vaginal Discharges. *Mr. James R. Lane*	257
252.	On a Peculiar Form of Vaginitis. *Prof. H. Hildebrandt*	258
253.	On the so-called Dysmenorrhœic Membrane. *Dr. Julius M. Klob*	259
254.	On Uterine Hydatidiform Disease, or Cystic Degeneration of the Ovum. *Dr. Thomas More Madden*	260
255.	On the Removal of Small Uterine Polypi by Torsion. *Prof. E. Martin*	261
256.	Prolapsus Uteri of Seventeen Years' Standing Cured by Operation. *Mr. Norton*	262
257.	Stricture of the Internal Os as a Cause of Marriage. *Dr. William Marshall*	262
258.	Extra-uterine Fœtation. *Dr. Evory Kennedy*	263
259.	Treatment of Placenta Prævia. *Dr. Fluck*	266
260.	On the Operations for the Relief of Chronic Inversion of the Uterus, with the Account of a Case Successfully Treated by a New Method. *Dr. Robert Barnes*	267
261.	A Case of Chronic Inversion of the Uterus. *Dr. v. Scanzoni*	267
262.	On Retroflexion of the Uterus. *Dr. Lombe Atthill*	268
263.	Results of Transfusion. *Prof. Landois*	269
264.	Diagnosis of Partial Rupture of the Uterus. *Dr. C. Hecker*	269
265.	On the Relation of Albuminuria to Puerperal Convulsions. *Dr. P. M. Hastings*	270
266.	Ovarian Cystic Tumor Cured by Bromide of Potassium. *Dr. John Millar*	270

(c) *Concerning the Diseases of Children.*

267.	On the Ophthalmia of New-born Children. *Dr. Desormeaux*	271
268.	Belladonna in Infantile Icterus. *Dr. J. Waring-Curran*	272
269.	On Convulsions in Children. *Dr. Samuel Gee*	272
270.	On Tracheotomy in Children; its Method, its Dangers, and its Difficulties. *Mr. Howard Marsh*	273
271.	A Case of Hæmaturia in a New-born Infant. *Dr. J. D. Smith*	274
272.	A Case of Diabetes in an Infant. *Dr. James L. Brown*	274
273.	On Bromide of Potassium for Diseases of Children. *M. Moutard-Martin*	275
274.	Simple Mode of Performing Artificial Respiration in Asphyxiated Children. *Dr. Handfield Jones*	276
275.	On the Wasting Diseases of Infants and Children. *Dr. Eustace Smith*	276
276.	Treatment of Hydrocephalus. *Mr. Timothy Holmes*	278
277.	Treatment of Rickets. *Mr. Bernard E. Brodhurst*	278

HALF-YEARLY ABSTRACT

OF

THE MEDICAL SCIENCES,

ETC.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

ART. 1.—*On the Influence of Weather and Seasons upon Public Health.*

By EDWARD BALLARD, M.D.

(*Medical Times and Gazette*, October 17.)

THIS paper is in continuation of a former paper in which the influence of a rise of mean temperature in producing an increase of general sickness, and of a fall in producing a decrease of general sickness, was established, as well as the limits within which this operation is exerted. The question now discussed is whether the influence of a rise or fall of mean temperature is similarly exercised in the colder and warmer seasons of the year. Drawing a line at 50° of mean weekly temperature, the author tabulates the results of his observations as to increase or decrease of sickness with rises or falls of mean temperature, as in his former communication, keeping separate the 191 weeks of which the mean temperature was below 50°, and the 198 weeks of which the mean temperature was 50° and upwards. It is observable that the two sets of tables thus constructed unite in confirming many of the inferences drawn in the previous paper. But then the fact comes out that, whether we regard the frequency with which increase of sickness occurs in association with rises of mean temperature, and decrease of sickness with falls, or whether we regard the clear gain by way of increase of sickness, as the result of the conditions operating in the weeks of rise, or by way of decrease in the weeks of fall, or the amount of increase or decrease of sickness in each set of weeks, the grand result is that, on the whole, the association of increase of sickness with rises of mean temperature and of decrease of sickness with falls is very much more marked in the *colder* than in the warmer seasons of the year. The author points out that this difference in result is probably in great measure due to the difference which exists in the diurnal range of temperature in the colder and warmer seasons—a subject which, however, he proposes to consider separately at a future time. The above points are fully wrought out in the paper, which concludes with a comparison of the frequency and force with which various supplementary meteorological conditions influenced the result of the rises and falls of mean temperature in the colder and warmer weeks respectively.

In discussing the influence of variations of daily range of temperature upon the fluctuations of general sickness, the first question which arises is this—whether a mere alteration in the extent of the range (irrespective of whether it is by way of increase or diminution) has any influence. The data in the possession of the author supply him with a record of 393 weeks, the fluctuations of sickness in which are known, as well as the mean daily range of temperature. The weeks are the same as those employed in his former paper, with the addition of four weeks in which neither rise nor fall of mean temperature was noted.

The author infers from his tables and the calculations based upon them that slight (under 2 degrees) and moderate (under 5 degrees) alterations of range tend to promote decrease of sickness, and so are favorable to public health; while, on the other hand, considerable alterations of daily range (5 degrees and upwards) tend to increase sickness, and so are detrimental to public health. Inquiring next whether the result of alteration of daily range is the same whether the alteration be by way of increase or of diminution of range, the conclusions arrived at are—1. That an increase of mean daily range, regarded generally, was in the weeks tabulated promotive of the occurrence of a decrease rather than of an increase of sickness; and, on the other hand, that a decrease of mean daily range was, on the whole, promotive of the occurrence of increase of sickness. 2. That, putting aside the weeks of slight alteration of range as those in which the effect of the variation of range was most likely to be disturbed by the predominant operation of other influences, there is reason to believe that a moderate increase of range promoted the occurrence of decrease of sickness more decidedly than did a moderate diminution of range; and 3. That a considerable increase of range was certainly not promotive of an increase of sickness, being apparently more or less antagonistic to it; while, on the other hand, a considerable diminution of range powerfully contributed to the occurrence of increase of sickness. The author then proceeds to inquire into the influence exerted by alterations of mean daily range upon the operations of rises and falls of mean temperature. Taking first their influence upon the operation of rises of mean temperature, which were shown in his former paper to promote increase of sickness, he infers from his tabulations that rises of mean temperature are assisted in their normal operation upon sickness by a simultaneous reduction of the daily range of temperature, and lessened in their normal operation by a simultaneous increase of the daily range of temperature; and that this fact is established by observing—1. That the clear gain by way of increase of sickness in the group of weeks in which rises of mean temperature were associated with reduction of daily range was greater, and in the group of weeks where the rises were associated with increase of daily range was less, than the relative extent of the rises might have been expected to occasion. 2. That the frequency with which increase of sickness occurred in the former group of weeks was greater, and in the latter group of weeks less, than the relative extent of the rises of mean weekly temperature might have been expected to occasion. 3. That in the weeks of increase of sickness there was plainly in operation some cause rendering the normal operation of the actual mean rises more powerful when associated with lessened range than when associated with increased daily range; and in the weeks of decrease of sickness there was also plainly in operation some cause of rendering the influences at work to produce this abnormal result less powerful in the weeks of diminished than in those of increased daily range. 4. That considering separately the weeks of rise in which the daily range was slightly increased or diminished, moderately increased or diminished, and considerably increased or diminished, the only exception to the above facts was found in the weeks in which the daily range was only slightly altered. In these the clear gain by way of increase was greater in the weeks of slightly increased than in those of slightly diminished range—this being due apparently to the more frequent operation of other causes of increase of sickness, as yet unconsidered by the author, in the former than in the latter set of weeks, and to the fact that when such causes did thus operate to augment the normal influence of the rise, they operated very forcibly. Next, as to their influence upon the operation of falls of mean temperature, which were shown in the author's former paper to promote decrease of sickness, he infers from his tabulations that falls of mean temperature are assisted in their normal operation upon sickness by a simultaneous reduction of the daily range of temperature, and lessened in their normal operation by a simultaneous increase of the daily range; and that this is established by observing—1. That the clear gain by way of decrease of sickness in the group of weeks in which falls of mean temperature were associated with reduction of daily range was greater, and in the group of weeks in which they were associated with increase of daily range was less than the relative extent of the falls might have been expected to occasion.

2. That the frequency with which decrease of sickness occurred in the former group of weeks was greater than in the latter—a fact partly accounted for, however, by the difference in the mean extent of the falls. 3. That in the weeks of decreased sickness there was obviously in operation some cause rendering the normal operation of the actual mean falls more powerful when associated with lessened than when associated with increased range. Other supplementary causes appear to have thrown into the shade the operation of alteration of range in those weeks in which increase of sickness abnormally occurred. 4. The exception to the above facts is to be found in those weeks in which the daily range was considerably altered. In these the clear gain by way of decrease of sickness, and the frequency of occurrence of decreased sickness, were both greater in the weeks of increased than of diminished range. This result was probably due to the overwhelming operation of other supplementary conditions not yet investigated by the author. Comparing now the influence of variations of mean daily range in the weeks of rise of mean temperature with that exerted in the weeks of fall of mean temperature, the author infers—1. That such influence is more obvious in the weeks of fall than in those of rise of mean temperature generally. 2. That this difference, more observable in respect of the amount of clear gain of increase or decrease of sickness than in respect of the frequency with which increase or decrease of sickness happened, probably resulted from the different frequency and force with which other more powerful supplementary conditions operated on the weeks of rise or fall respectively. 3. That in the weeks of rise these overwhelming supplementary conditions operated most obviously to disturb the result in the weeks of slight alteration of range, and in the weeks of fall most obviously in the weeks of considerable alteration of range.

ART. 2.—*The Treatment of Cholera and Diarrhœa.*

By Sir THOMAS WATSON, Bart., M. D., late President of the Royal College of Physicians.

(*British Medical Journal.*)

Sir Thomas Watson, M. D., whose lectures on medicine have most influenced the practice of this half century, writes in the *British Medical Journal:* "I find it necessary to modify considerably some advice which I formerly gave my auditors as to the treatment of a disorder which appears to be again increasingly prevalent throughout the country." The form and features of this dreaded pestilence have, he says, "been the same in all its visitations to this country. Must we still, as heretofore, make the mortifying confession that our art is unable to cope with it successfully? Not so, I trust. Among the many and discordant expedients which have been brought forward and fairly tried for the cure of cholera, one, long since suggested, and almost scornfully rejected, has emerged of late into clearer significance and more intelligible and ascertained value. I mean the method—recognized as legitimate and reasonable in various other maladies—of 'elimination,' of which the main advocate has been Dr. George Johnson, Professor of Physic in King's College." After commenting upon the facts and principles involved, Sir Thomas Watson lays down the following rules, in language partly his own and partly that of Dr. George Johnson: "Diarrhœa ought not to be neglected even for an hour. One important and guiding rule of treatment is not to attempt by opiates, or by other directly repressive means, to arrest a diarrhœa while there is reason to believe that the bowel contains a considerable amount of morbid and offensive materials. The purging is the natural way of getting rid of the irritant cause. We may favor the recovery by directing the patient to drink copiously any simple diluent liquid—water (cold or tepid), toast-water, barley-water or weak tea; and we may often accelerate the recovery by sweeping out the alimentary canal by some safe purgative, and then, if necessary, soothing it by an opiate. Castor oil, notwithstanding its unpleasant taste, is, on the whole, the safest and best purgative for this purpose. It has the advantage of being very mild

and unirritating, yet withal very quick in its action. A tablespoonful of the oil may be taken floating on cold water, or any other simple liquid which may be preferred by the patient. A mixture of orange juice or lemon juice with water forms an agreeable vehicle for the oil. If the dose be vomited it should be repeated immediately, and the patient should be still, and take no more liquid for half an hour, by which time the oil will have passed from the stomach into the bowels. Within an hour or two the oil will usually have acted freely. Then a teaspoonful of brandy may be taken in some thin arrowroot or gruel, and if there be much feeling of irritation, with a sense of sinking, from five to ten drops of laudanum may be given in cold water. These means will suffice for the speedy arrest of most cases of choleraic diarrhœa. If the patient have an insuperable objection to castor oil, or if the oil cannot be retained on the stomach, ten or fifteen grains of powdered rhubarb, or a tablespooful of the tincture of rhubarb, or a teaspoonful of Gregory's powder, may be substituted for the oil. If the diarrhœa has continued for some hours, the stools having been copious and liquid; if there be no griping pain in the bowels, no feeling or appearance of distension of the intestines, the abdomen being flaccid and empty, and the tongue clean, we may conclude that the morbid agent has already purged itself away. There will therefore be no need for the castor oil or other laxative, and we may immediately give the brandy in arrowroot and the laudanum as before directed. The rule in all cases is not to give the opiate until the morbid poison and its products have for the most part escaped—not to close the door until the 'enemy' has been expelled. While there are some cases in which the evacuant dose is not required even at the commencement of the attack, there are many more in which the opiate is unnecessary in the later stage. In some cases of severe and prolonged diarrhœa it may be necessary to repeat the oil and laudanum alternately more than once at intervals of three or four hours. Practical skill and tact are required to discriminate these cases. It must be borne in mind that when the choleraic secretions are being actively poured out from the bloodvessels, the bowel, though it may have been completely emptied by a dose of oil, may quickly again become filled with morbid secretions, and hence the need for an occasional repetition of the evacuant dose. If the diarrhœa be associated with vomiting, this should be encouraged and assisted by copious draughts of tepid water. The vomiting affords relief, partly by the stimulus which it gives to the circulation, but mainly by the speedy ejection of morbid secretions. If there be nausea without vomiting, and, more especially, if the stomach be supposed to contain indigested or unwholesome food or morbid secretions, an emetic may be given—either a teaspoonful of powdered mustard, or a tablespoonful of common salt, or twenty grains of ipecacuanha powder in warm water. In all cases of severe diarrhœa the patient should remain in bed."

Art. 3.—*Causes of Cholera.*

By Professor Pettenkofer.

(*Medical Press and Circular*, May 12.)

Professor Pettenkofer gives the following as a summary of his elaborate investigations into the causes of cholera:—

"In my opinion four conditions are essential in order to bring about an epidemic of cholera:—

1. A specific germ.
2. Certain local conditions.
3. Certain seasonal conditions.
4. Certain individual conditions.

"I have not investigated the nature of the cholera germ as disseminated by human intercourse. I have only taken for granted that it exists in the intestinal discharges of persons coming from infected places. My own investigations have been chiefly confined to the second and third before mentioned conditions. Hitherto I have considered the human subject only so far as he is the bearer of the infecting matter of cholera or of the germ of this matter; and have with

facts contended against the pure contagionists, who declare that the infecting matter is produced by a process of multiplication within the bodies of those affected by the disease. My chief proofs of this have always lain in simple *facts* (independent of any theory) as to the spread of cholera over large districts. There are certainly *places* enjoying complete immunity from cholera; also *periods* of immunity. The development of epidemics, and the immunity of many places, is totally inexplicable, by the simple assumption of contagion from person to person. Observe the spread of epidemics along the course of railways and other ways of intercommunication. Nor are they to be explained by certain individual disposition of person (food, drinks, domestic arrangements, age, position, &c.); but the circumstances require, besides these, the existence of local and seasonal aiding causes, which have to be assumed.

"Are these in immediate relation to the cholera germ itself, or to the individual disposition? Facts speak in favor of the first opinion only. 1. Persons from an unaffected place going to an affected one are attacked quite as numerously and as soon as the persons who constantly reside in these places, 2. Cases are on record where a person from an infected district conveys (in a way not clearly ascertained) infecting matter in a place enjoying complete immunity from cholera; and there, by means of his limited amount of infecting matter, infects a few persons who themselves had never been subject to the local conditions of an infected place, and therefore could not have had their individual disposition altered by it. Facts imperiously demand that we should consider that the 'seasonal' and 'local' conditions are intimately connected with the cholera germ, although they may, in addition, be in a condition to act on the predisposition also.

"The infecting matter, in my opinion, is not a product of the human intestines, but of the soil. In so far as we consider the cholera germ of an organized nature and capable of various degrees of development, it is possible—nay, very probable—that there may be various degrees of infection. The distinction between cholera 'germ' and cholera 'infecting matter' must be noted. The cholera germ stands in the same relation to the infecting matter as the seed does to the fully developed plant."

ART. 4.—*Treatment of Gall-Stones.*

By T. H. BUCKLER, M.D.

(*The Lancet*, February 13.)

Dr. T. H. Buckler, of Baltimore, recommends the joint administration of chloroform and succinate of peroxide of iron for the dilution of gall-stones, and states that in his hands the remedies have proved very successful, the latter drug being administered for some time continuously.

ART. 5.—*Hydatid Tumor of the Liver treated by Simple Puncture.*

Under the care of Dr. DUFFIN, King's College Hospital.

(*The Lancet*, January 30.)

The following case aptly illustrates the value of the method of puncture with the small trocar in the treatment of cases of hydatid tumor of the liver:—

S. R., aged twenty-seven, a man of rickety build, but otherwise of a sound constitution, applied at King's College Hospital, on Oct. 13th, 1868, complaining of indigestion and aching pains about the right side and shoulder. On examining the spot indicated, the right inferior mammary and hypochondriac regions were found to bulge considerably, and the hepatic dulness extended vertically downwards from the nipple, over a space of nine inches and a quarter. The possibility of a hydatid tumor was at once opened up, but the necessity of great caution in the diagnosis became at the same time manifest, owing to the extreme deformity the thorax had undergone during childhood from the pro-

cess of rachitis, and from the existence of considerable lateral curvature of the spine. These rendered all transverse measurements next to worthless. Nevertheless, a relative increase of half an inch in the right semi-circumference could be established. This proved to be half an inch below the line of the costal cartilages. Much more valuable information was obtained on tracing the upper limit of the dull area. This was found to represent a curve, with its convexity directed upwards, and reaching its highest point at the fourth right rib, a little outside the nipple. From this, its greatest point of elevation, the line trended sharply downwards and backwards to the tenth rib, and downwards and inwards to the xiphoid cartilage. The lower edge of the liver was sharp and supple, and convex in the opposite direction. The summit of the bulge thus corresponded to the centre of the organ, and at this point an obscure sense of fluctuation could be detected. Beyond the pushing upwards of the right leaf of the diaphragm, no notable visceral displacement existed. Vesicular breathing could be traced to the upper edge of the dulness. The only annoyance complained of, was an indistinct sense of aching in the hepatic region. The inferior edge of the dull space was found to vary its position slightly with the movements of respiration and the change of posture of the patient, giving presumptive evidence of the absence of adhesions. The rest of the evidence was mainly negative. Neither ascites, jaundice, nor evidence of infection existed.

After a consultation with Mr. Henry Smith, Dr. Duffin requested that gentleman to make an explanatory puncture with a long, fine trocar and canula. Twenty-eight ounces of a clear, transparent, watery fluid were readily withdrawn. This proved to contain numerous echinococci and free hooklets. As soon as the jet of liquid began to slacken, the end of the canula was at once occluded with the thumb, and the instrument withdrawn. During the latter part of the operation, the patient complained of a deep sense of aching in the region of the liver. A flannel bandage was at once applied to fix the abdominal muscles, and a full opiate administered. About six hours later, the patient had two sharp rigors, and lay with his knees drawn up in dorsal decubitus. The belly generally was tympanitic, and somewhat tender. The aspect was that of shock; the pulse had risen to 104, the temperature to 100°. An additional opiate was given. A fair night followed; and the next morning the temperature had fallen, and the abdominal tenderness was less; his pulse, however, had risen to 120. On the second day from the operation, the pulse ratio began to slacken, and from that time forth he had no unpleasant symptoms. On the fifth day a physical examination showed a diminution of two and a half inches in the vertical dulness, and of half an inch in the semi-circumference. The man has continued under observation till the present time. The vertical dimension has since fallen an additional half inch; and he is completely comfortable.

Dr. Duffin remarked upon this case: "The only diagnostic difficulty which we had to contend with, consisted in the deformity of the chest by the rickety softening and subsequent distortion of its walls. It served to bring out in strong relief, the value to be attached to the great convexity of the upper line of dulness. This, together with the great increase of the vertical dimensions of the liver, the slight bulge below the costal cartilages, the almost painless character of the swelling, and the general good health of the patient, constituted the foundation of the diagnosis. In determining the propriety of an operation, the probable absence of adhesions had to be borne in mind; but if puncture with a very fine trocar be resorted to, I believe that little importance need be attached to that circumstance. With a few simple precautions, the chance of any hydatid fluid escaping into the peritoneal sac may be reduced almost to the vanishing point. One of the moments of greatest danger is that of the withdrawal of the canula. As it quits the liver charged with hydatid fluid it should be occluded with the finger, and so brought out loaded with its contents. At the same moment, the abdominal wall should be firmly pressed against the liver. The elasticity of the hydatid exocyst is so great that only an extremely minute portion of fluid is likely to follow the canula. The smaller the instrument selected, the less will be the chance of any hemorrhage; and it is further remarkable how tolerant the peritoneum is of blood as contrasted with other fluids. Another advantage of a very fine canula is, that the fluid leaves the

hydatid cyst very gradually. This will be obvious if we consider the vascularity of the organ implicated, and the changes in its relations that the withdrawal of a considerable amount of fluid must necessarily occasion. Neither is it necessary to evacuate the cyst completely. Even with a very partial emptying, it is probable that the elasticity of the exocyst can peel off and fold the endocyst so as to interfere with its vascular supply, and ultimately induce its degeneration. Next in importance to the method of the operation, stands the most complete rest of the abdominal viscera which can be obtained. Hence I would strongly recommend fixing the abdominal walls with a flannel bandage, and the immediate administration of a free opiate. In the instance before us some rigors, general abdominal tenderness, and slight febrile signs, ensued a few hours subsequent to the operation. Within twenty-four hours, however, all threat of danger had passed away. Something similar to this has been so frequently noted after this method of interference that it may be considered almost as the rule. Provided the temperature does not exceed 101°, I believe it need not alarm us. I am inclined to ascribe it to the great change in the relations of the portal system, which the decrease of pressure within the liver must necessarily entail. It is too transient and too frequently observed to be attributable to aborted peritonitis. According to the statistics collected by Dr. Murchison, a first puncture is also a final one six times out of seven. Should a second be requisite, no additional risk is involved in a repetition of the first process. If suppuration of the cyst supervene, free evacuation should of course be at once resorted to. The accident happened, according to Dr. Murchison's statistics, ten times out of forty-six, but even in seven of these, free emptying of the cyst was followed by a favorable result."

Art. 6.—*The Symptoms of Thrombosis of the Cerebral Sinuses.*

By Dr. Hubner.

(*Archives der Heilkunde*, ix. 5, 1865; *Archives Générales de Médecine.*)

After having analyzed the different works published up to the present time on thrombosis of the cerebral sinuses, Dr. Hubner gives a detailed report of a case in which the patient succumbed to a thrombosis of the sinuses, not diagnosed during life. The patient presented at first general head symptoms, and soon afterwards neuralgia of the right supra-orbital nerve, blepharoptosis on the same side, œdema of the eyelids, loss of hearing, and finally facial paralysis on the right side, with blood stases in the corresponding frontal veins. All these phenomena were very transient.

Dr. Hubner thinks that the diagnosis of thrombosis of the cerebral sinuses should be based upon *three* orders of symptoms.

1. Stasis in the vessels situated on the proximal side of the point of obstruction.
2. Dilatation of the collateral veins.
3. Direct signs of the compression at the level of the seat of vascular obstruction.

The stasis in the vessels generally gives rise to slightly characteristic cerebral symptoms.

Venous dilatation may exist in the collateral vessels of the walls of the cranium, or rather it may show itself in the veins which unite the vessels of the face to those of the cranium. In the latter case, vascular dilatation has considerable diagnostic importance. In obstructions of the transverse sinuses one may observe dilatation of the emissary veins of Santorini and of the mastoid vein. The parietal veins also are dilated in cases of dilatation of the longitudinal or ethmoidal sinuses. When a thrombosis exists of the ophthalmic vein which carries to the sinus the blood of the frontal vein, of the bulb, of the eyelids, and the muscles of the eye, one may observe an injection of the skin of the forehead, with œdema of the eyelids, of the globe of the eye, and even of the muscles: hence doubtless the prominence of the eye described in cases of this kind.

The local symptoms are brought on by direct compression of the nerve trunks; this compression may be also produced secondarily through the œdematous venous walls. These facts are very clear in thrombosis of the cavernous sinus. In fact this region is traversed by the common oculo-motor nerve, the pathetic, the external oculo-motor, the ophthalmic branch of Willis, and even the branches of the great sympathetic.

In the case reported by Dr. Hubner, there was thrombosis of the superior longitudinal sinus, and of the transverse sinus, afterwards of the cavernous sinus on the right side, and finally of the corresponding ophthalmic vein.

The thrombosis commenced in the longitudinal sinus, and was continued into the transverse sinus; this vascular obstruction brought on an intense collateral stasis of all the sinuses at the base of the brain. The stasis thus produced in the cavernous sinus led to dilatation of the collateral veins of the face, and to compression of the nerves, including the great sympathetic. Thence dilatation of the cerebral arteries. When the thrombosis had extended as far as the cavernous sinus, the phenomena of stasis and compression diminished in intensity. It is easy to explain in this manner the mutability of the symptoms, which was indicated by Lebert as one of the characteristic phenomena of thrombosis of the sinuses.

Art. 7.—*On the Treatment of Scarlet Fever.*

By Peter Hood, M.D.

(*British Medical Journal*, February 6.)

In the ordinary run of cases, Dr. Hood writes, the first symptom usually complained of is headache, next soreness and swelling of the throat, followed by vomiting; and we find that the afore-mentioned symptoms are relieved by the vomiting taking place. The healthy action of the liver is interfered with, and the bile, instead of taking its natural course, finds its way into the stomach, and is invariably found in the materials ejected. Hence the importance of giving an emetic at the onset of the fever, if vomiting have not occurred. We may to a certainty judge, for our guidance, of the presence of bile in the stomach by the appearance of the tongue; if this member be covered, or only partially so, with a brown fur, bile will be thrown up as soon as the act of vomiting occurs.

We sometimes meet with a case of continuous vomiting, attended with extreme irritability of stomach; this condition, if judiciously managed, is not fraught with danger, as there is more to be apprehended from the absence of vomiting than when it is in excess. The perverted course of the bile points to a defect existing in the liver, which defect is one of congestion. Here, again, we are called upon to assist nature in relieving this important organ; no medicine operates so beneficially in this case as a dose of calomel and scammony. And if we take the appearance of the tongue as our guide throughout the whole period of the fever, and when it is otherwise than perfectly clean, administer gentle alterative medicines to sustain the healthy action of the liver, we shall most effectually prevent dropsy from occurring, and avoid deafness and all the other sequelæ attendant on this disease.

When the stomach has been relieved by vomiting, either by the operation of nature or art, and the liver and bowels also by the administration of an efficient dose of medicine, it is then the proper time to avail ourselves of the antiseptic property of quinine, *which drug is, according to Dr. Hood's experience, as powerful in destroying the scarlatinal germ as it is potent in the cure of ague.* Dr. Hood does not hesitate to say that, if the previous injunctions as to the emetic and purgative are attended to, any medical man who has never before employed this medicine in the treatment of scarlet fever, will never employ any other when he witnesses the gratifying progress of a case only twenty-four hours after using it. He will find the pulse diminished in frequency, the soreness of throat and difficulty of swallowing scarcely complained of, obviating all necessity for the use of gargles, sponging, caustics, &c., the heat of skin most sensibly decreased, and the restlessness, frequently so distressing a symptom,

succeeded by a calm composure. In the worst forms of scarlet fever, in which the blood of the patient is in a dyscrastic state, indicated by virulent coryza, discharges from the mouth, eyes, and ears, owing to the disintegration of the mucous surfaces, it is imperative to administer iron with the quinine, and suitable doses of the tincture of sesquichloride of iron, or of the sulphate of iron, should be diligently persevered with; at the same time paying strict attention to procuring a daily alvine evacuation.

Dr. Hood next refers to one other subject connected with the treatment of scarlet fever, which he regards almost as important as the use of quinine itself. This is the disinfection of the sick-room by the employment of chlorine; and here he differs from what Dr. Budd's experience has led him to say on this subject.

Dr. Hood's experience of the beneficial effects of a free use of chlorine is directly opposed to Dr. Budd's views; and he is able to state from his own observation that, if this gas be properly used in the sick-room of the patient, *the contagion of scarlet fever will be confined to that room.* His method of using it is as follows: He directs large coarse towels to be saturated with a solution of chloride of lime, and hung over the backs of chairs, and a sheet to be hung in front of the bed-room door. The quantity required for disinfecting the room may be judged of by smell and taste on going into it. This process should be continued throughout the course of the fever.

Art. 8.—*On the Treatment of Scarlet Fever.*

By Charles T. Thompson, M.D., M.R.C.P.

(*The Lancet*, February 27.)

On the very first access of the fever, Dr. Thompson puts his patient into a warm bath, and repeats this as often as the strength of the patient will allow or the severity of the attack may require. The first effect of this treatment is to produce a soothing and refreshing feeling in the patient, to be followed soon by such an eruption on the surface, of so vivid a color and in such amount, as would astonish those who have never witnessed it. Thus one of the greatest dangers of this fearful disease—the suppression of the eruption—is escaped.

After the first or second bath the appetite usually returns, so by getting down light and nutritious food the means are afforded of supporting the strength of the patient during one of the most trying periods of the disease. By this treatment the excreta from the skin are removed as rapidly as they are deposited, doing away immediately with the source of infection, leaving no room for the dissemination of the disease. The desquamation of the cuticle is greatly promoted, it being removed in small particles, and never in large pieces.

The drying of the body after the bath is effected by soft linen cloths, sufficiently large to envelop the whole person, and with as little friction as possible; in fact, the surface is what may be called "dabbed" dry, as the excitement from friction of the skin often produces great mischief.

The irritation of internal organs is also at once relieved by this continual determination to the surface. And as the condition of the latter becomes more healthy, the nasal, renal, and alvine secretions, with those of the throat, are speedily deprived of their noxious properties, and quickly recover a healthy character, thus again removing additional sources of infection.

The fever rapidly subsides, and convalescence usually proceeds more or less quickly, according to the mildness or severity of the attack. Another advantage of this treatment is, that a very serious case is soon reduced to a mild one, and the patient recovers in less than half the usual time.

This practice Dr. Thompson has pursued for more than fifteen years, during which period he has attended many cases of scarlet fever; but has never lost a single patient from this disease, nor can he call to mind at this moment any one case in which the infection has been carried from the patient to any other individual.

During the convalescence of the patient the bath may be used daily, or every

other day, according to the feelings or wish of the patient; but its temperature should be gradually reduced, so as to invigorate and not exhaust, and also to enable the surface successively to resist the alternations of heat and cold to which the patient may be exposed in moving about from place to place.

The terrible sequelæ of this formidable disease are, Dr. Thompson adds, by the treatment above recommended, seldom if ever met with. No nurse or washerwoman has, to his knowledge, suffered from the performance of her avocations. Of course the necessary medicines must be administered as occasion requires.

ART. 9.—*How to prevent Typhoid Fever (otherwise called Gastric Fever, or Low Fever) from spreading.*

By WILLIAM BUDD, M.D.

(*British Medical Journal*, March 27.)

The means by which typhoid fever may be prevented from spreading are very simple, very sure, and their cost next to nothing. They are founded on the discovery that the poison by which this fever spreads is almost entirely contained in the discharges from the bowels. These discharges infect—1. The air of the sick-room; 2. The bed and body linen of the patient; 3. The privy and the cesspool, or the drains proceeding from them. From the privy or drain, the poison often soaks into the well, and infects the drinking water. This last, when it happens, is of all forms of fever-poisoning the most deadly. In these various ways, the infection proceeding from the bowel-discharges often spreads the fever far and wide. The one great thing to aim at, therefore, is to disinfect these discharges on their very escape from the body, and before they are carried from the sick-room. This may be perfectly done by the use of disinfectants. One of the best is made of green copperas. This substance, which is used by all shoemakers, is very cheap, and may be had everywhere. A pound and a half of green copperas to a gallon of water is the proper strength. A teacupful of this liquid put into the night-pan every time before it is used by the patient, renders the bowel-discharge perfectly harmless. To disinfect the bed and body linen, and bedding generally, chloride of lime or MacDougall's powder is more convenient. These powders should be sprinkled, by means of a common dredger, on soiled spots on the linen, and about the room to purify the air. All articles of bed and body linen should be plunged, immediately on their removal from the bed, into a bucket of water containing a tablespoonful of chloride of lime or MacDougall's powder, and should be boiled before being washed. The privy, or closet, and all drains communicating with it, should be flushed twice daily with the great copperas liquid, or carbolic acid diluted with water. In the event of death, the body should be placed as soon as possible in a coffin sprinkled with disinfectants. Early burial is on all accounts desirable. In towns and villages where the fever is already prevalent, the last rule should be put in force for all houses, whether there be fever in them or not, and for all public drains. As the hands of those attending on the sick often become unavoidably soiled by the discharge from the bowel, they should be frequently washed. The sick-room should be kept well ventilated day and night. The greatest possible care should be taken with regard to the drinking-water. Where there is the slightest risk of its having become tainted with fever-poison, water should be got from a pure source, or should at least be boiled before being drunk. Immediately after the illness is over, whether ending in death or recovery, the dresses worn by the nurses should be washed or destroyed, and the bed and room occupied by the sick should be thoroughly disinfected. These are golden rules. Where they are neglected, the fever may become a deadly scourge. Where they are strictly carried out, it seldom spreads beyond the person first attacked.

N. B.—A yard of thin wide-width gutta-purcha placed under the blanket, under the breech of the patient, by effectually preventing the discharges from soaking into the bed, is a great additional safeguard.

Art. 10.—*On the Treatment of Typhoid Fever by Creasote.*[1]

By M. G. Pecholier.

(*Gazette Hebdomadaire*, No. 13, 1869.)

M. Pécholier holds that the pathological modification of the blood in typhoid fever depends upon the action of an organized ferment, which works on the blood in the same manner as all organized ferments do, according to the demonstrations of M. Béchamp. Removing from the blood the materials of its nutrition, it gives up those of its own decomposition, and thus causes a radical change in this fluid.

Typhoid fever, according to M. Pécholier, is then the result of the modification produced in the living economy by vitiated blood and of the reaction of the economy against the cause of the disturbance.

These considerations have led to the proposal of a new therapeutical indication. Profiting from the works of M. Béchamp on the effects of creasote against the development of organized ferments, the author thought that if creasote could prevent the appearance of the multiplication of typhoid ferments, it would become a powerful remedy against so obstinate an affection to therapeutics. With this idea creasote was employed in sixty cases of typhoid fever which were treated in Hôpital Saint-Eloi during the three autumnal months of 1868. The patients took every day, by spoonfuls, a mixture containing three drops of creasote, two drops of essence of lemon, ninety grammes of pure water, and thirty grammes of orange-flower water; the essence of lemon acting as a corrective, and probably also as an adjuvant. At the same time two enemata, each containing from three to five drops of creasote, were administered daily.

The following were the results of these trials:—

In every case where the typhoid fever was in an advanced stage the therapeutical results were absolutely nil. In those cases, on the contrary, and these were numerous, where the patients had been admitted sufficiently early for one to deal with the commencement, or at least in a stage not far removed from this, the treatment acted very efficaciously in diminishing the intensity of the fever and shortening its duration.

From the facts and conclusions given in his paper, M. Pécholier has been led to suppose that creasote, when administered in small doses in mixtures, enemata, and probably also in the form of vapor, at the commencement of typhoid fever, and during the first days of its invasion, has powerful effects in diminishing the intensity and shortening the duration of the disease. He also adds, that this agent will doubtless prove radically efficacious when employed in large buildings as a prophylactic means at the time of an epidemic.

Art. 11.—*The Popular Idea of Counter-Irritation.*

By Francis E. Anstie, M.D., F.R.C.P.

(*Medical Press and Circular*, March 3.)

At a meeting of the Medical Society of London, held February 15th, Dr. Anstie read a paper on the popular idea of counter-irritation. His own views presented a very complete though undesigned coincidence with those propounded by Dr. Dickinson in a late number of the "St. George's Hospital Reports." As to the value of counter-irritation in medical practice, proof is singularly deficient, and we are unable to explain the rationale of the process. The term itself is almost a relic of barbarism of the times when the human body was supposed to be ruled by intestine demons. The author passed in review

---

[1] Communicated to the Académie des Sciences.

the various structures which could be possibly influenced by the process known as counter-irritation.

1. The Bloodvessels.—These could only be affected within a narrow range. In the case of counter-irritation of joints, the operation might be explained on account of the connection of the superficial with the deeper vessels, and consequently the depletion of one being the depletion of the other; but in the case of counter-irritation of the chest for the possible relief of an internal congestion, no such explanation can be given.

2. The Nerves.—The difficulty here is the fact, taught by ordinary experience, that peripheral irritation is more productive of morbid than of beneficial results.

3. The Absorbents.—Here the action must be almost wholly a bad one. The author condemned the routine practice of blistering. The foundation of it was too often the lingering love of something like a charm.

ART. 12.—*Remarks on the Natural History of Rheumatic Fever.*[1]

By WILLIAM W. GULL, M.D. and HENRY G. SUTTON, M.B.

(*The Lancet*, January 16 and 30.)

The authors are desirous of bringing under the notice of the profession a few more cases of rheumatic fever which have been treated by mint water, or, in other words, which have been allowed to run their natural course. They moreover desire to point out what appears to be the natural course of rheumatic fever with reference to the heart, and to show in what proportion of cases the heart became involved when rheumatic fever was treated by mint water. Lastly, to consider if there is any evidence to prove that the heart is more frequently involved when rheumatic fever is treated by mint water, or when treated by alkalies, by lemon-juice, or by blisters. This paper is based on twenty-five cases of rheumatic fever, twelve of which occurred in Guy's Hospital, most of them under the care of Dr. Gull, and thirteen occurred in the London Hospital, under the care of Dr. H. G. Sutton. The particulars of the twelve cases have been already recorded in the Guy's Hospital Reports, and the remaining thirteen cases are recorded in the present communication to the Society. Of these twenty-five cases, eighteen were females and seven were males. The average age of the patients was nineteen years. All the patients were suffering from their first attack of rheumatic fever, and the disease was well marked. The temperature of the body during the acute symptoms reached in some cases 104° and 103°; in other patients it was 101° and 102°. Taking an average of all these cases, the temperature was about 102° during the acute stage. The average duration of the acute symptoms, as estimated by the thermometer and general symptoms, was ten days. Taking all the cases that have been recorded by the authors, the average duration was 9.1 days. The total duration of the acute symptoms from their commencement, including the time the patients were ill before coming into the hospital, to their cessation, was on an average seventeen days. The authors next proceed to inquire if the duration of rheumatic fever is longer when treated on the expectant plan, or when treated by drugs; and they consider that no one plan of treatment has any great advantage as regards shortening the duration of the disease. Drs. Gull and Sutton agree with Dr. Barclay in considering that we are not yet in a position to say that alkalies exercise any influence in curtailing the duration of the disease. They are also of the same opinion respecting lemon-juice. With regard to Dr. Herbert Davies's blister treatment, they remark it relieves very much the pain and sufferings of the patients in some cases; but it does not appear to curtail the rheumatic process. And the authors remark, "Our cases appear to us to teach that the rheumatic process runs its course under the

[1] Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, January 12.

expectant treatment as favorably as under the treatment by drugs." Drs. Gull and Sutton next proceed to inquire what evidence there is to show that the drug treatment prevents the heart becoming diseased, and they give a detailed account of the state of the heart in their twenty-five cases. Every one of these twenty-five patients were suffering from their first attack of rheumatic fever, and twelve of the number had organic disease of the heart when admitted into the hospital; two had some, but not very well-marked, evidence of organic disease of the heart when admitted; and in eleven there was no heart disease on admission. No organic disease of the heart supervened while under treatment, and the heart was healthy when these eleven patients left the hospital. They remark the experience gained in these cases of rheumatic fever, which were allowed to run their natural course uninfluenced by drugs, tends to prove that, if patients are admitted into the hospital suffering from a first attack of rheumatic fever, and the heart is not diseased on admission, it will very rarely become organically diseased while patients are under treatment. The opinions of Drs. Garrod, Dickinson, Herbert Davies, Geo. Owen Rees, and Basham are then quoted to show that the heart did not, or very rarely did, become diseased when rheumatic fever was treated in the hospital by full doses of alkali, by blisters, by lemon-juice, or by nitrate of potash, and they observe: "It appears to us that there is not sufficient evidence to prove that any of the advocated systems of treatment have power to prevent the heart becoming diseased. In concluding that the treatment has prevented the heart becoming diseased, we have overlooked the fact that there might be no tendency at the time the patients were under treatment for the heart to become diseased, and our cases show that the good results which have been attributed to the influence of the remedies also occurred when no special remedies were used. Our cases, therefore, tend to teach that these good results were due, not to the drugs, but to the natural course of the disease." The authors then endeavor to show that when the heart becomes diseased in rheumatic fever, it does so at an early stage of the disease; and if it does not become diseased during the first week of the rheumatic fever, it rarely does so afterwards; and they give abstracts from twenty-two cases of rheumatic fever to demonstrate this.

Drs. Gull and Sutton's conclusions are as follows:—

That when the patient's heart was healthy on admission into the hospital, it was very rare for it to become organically diseased while the patients were under treatment by mint water—or, in other words, when the rheumatic fever was allowed to run its natural course.

That the evidence before the profession shows that the heart very rarely became diseased while patients were under treatment in the hospitals, and that this was the case when patients were treated by alkalies, lemon-juice, or by blisters to the joints.

That there is no sufficient evidence before the profession to prove that any of the advocated remedies have power to prevent the heart becoming diseased.

That in rheumatic fever the tendency is for the heart to become diseased during the first few days of the fever; and, should it escape the early days of the disease, there is each day a lessening tendency to its implication. Hence the cases would appear to show that, if at the end of the first week of the rheumatic fever the heart is free from disease, then there is little or no tendency for it to become diseased during the later weeks.

That the reason why the heart did not become diseased when rheumatic fever was treated by alkalies, blisters and by lemon-juice is to be attributed, not to the influence of the drugs, but to the natural course of the disease; for the patients did not come under treatment until the rheumatic fever had been going on some days, and until the period when the heart was most liable to become diseased had passed over.

That authors conclude by saying: "Hitherto the investigation into the therapeutics of the rheumatic process has been rendered all but valueless by the deficiency in preliminary data. At present, therefore, as regards treatment, our cases seem to show that we are limited to a careful regimen of the patient. Rest, mechanical and physiological—rest in the very outset of the disease. We ought not to wait until the rheumatic process has become well developed in

the joints. To regulate the temperature. To moderate excessive skin function by sponging the surface of the body. To allay pain, by placing the patient in an easy position, and sometimes by opiates. To sustain the organic nerve power by light diet, and occasionally by small doses of alcohol. To procure rest by the simplest means, especially avoiding such movements of the body as may excite the circulation. In fine, to place the patient in a physiological state of mean rest, if it may be so termed, of the nervous, the circulatory, the muscular and digestive systems. To do this fully will often tax all our energies, and require often more consideration than is requisite for prescribing any supposed appropriate drug treatment. We are therefore, at present, advocates of the exactest treatment of the patient under acute rheumatism, though we may doubt the value of so-called specific drugs."

The discussion was open by Dr. Fuller, who, after expressing his obligations to the authors of the paper, said that their researches as to the natural course of rheumatic fever rather served to confirm the old notion that its proper cure was six weeks in blankets; but, although they made out that nine or seventeen days was the regular course of the disorder, the facts were rather different. He had consulted Dr. Gull's second report, to which, however, he would not have referred had the facts of the present cases been read. The first was forty-two or fifty days under treatment, the second at the end of twenty-two days was doing well, the third went out at the end of forty-two days, the fifth was discharged at the end of fifty-four days, and so on. The course of the complaint was, therefore, to be five or six weeks under treatment. If they took the alkaline treatment, he found that the average of his own cases was seventeen or eighteen days till they left. Here the two systems were compared. As to the condition of heart, it was said that the liability to heart complications was greatest at first. This was quite true; but this was only saying that those parts which are most liable to attack are those which are attacked first. He must demur to the slight liability said to exist to such complications. When registrar at St. George's, during four years, many cases of heart complication occurred during the second and third weeks, and in his subsequent experience he had seen this over and over again. As to what was called rheumatic fever, at St. George's the term was limited to those cases characterized by fever, furred tongue, and quick pulse. The reason why alkalies were so much spoken against was that other affections, as pyæmia and acute gonorrhœal rheumatism, had been mistaken for the true complaint; for in these diseases alkalies were of no service, but under their use the patient got worse. There was no disease which yielded to treatment so readily as acute rheumatism. When he could number cures by the hundred without pericarditis, it was fair to conclude that the remedy was of some service. Alkalies were quite as good in private practice, and he would still believe in alkalies—they were almost specifics.

The President remarked that to the list of diseases confounded with acute rheumatism Dr. Fuller might have added acute periostitis.

Dr. Fuller: Yes, and many cases of gout.

Dr. Gull said when this question was taken up at Guy's he took great care to ascertain exactly the duration of the disease and the period of retention in the hospital. The only true criterion of the former was temperature; consequently Dr. Fuller's data were fallacious. They must have something more exact than the stay in hospital. Dr. Fuller also remembered many instances of heart affection occurring in the second or third week. Such complications require the greatest possible care in diagnosis when they enter; otherwise they may seem to be developed in the second or third week. This was another source of fallacy. In such cases as those reported the question of diagnosis might be put on one side. Gonorrhœal rheumatism does not occur in young girls of thirteen and fifteen.

Dr. Stewart remarked that about six years ago Dr. Gull narrated the facts of some sixty cases of acute rheumatism treated without internal remedies, and he wanted to hear more of his results; not getting these, he proceeded to make some investigations on his own account. He tried old plans, in some of which he had considerable confidence; but he found that he had little reason to be so, especially with regard to alkalies, for heart affection frequently came on when

under the full alkaline treatment. He had observed fifty-six cases of acute rheumatism in 1864-66, and, on reckoning, he found that the average number of days the cases were under treatment, whether with or without alkalies, was forty-two, and heart complications were also nearly equal in both. In future, observers should agree as to the termination of the disorder. In many of his own cases the temperature had not been carefully taken, which he regretted, as he looked on the temperature as of great importance. In many cases the acute symptoms came back even after the patient had left the hospital. The question was not to be decided by hundreds or even thousands of cases, but by prolonged study extending over many years, for the fever varied in different years. The eruptions were different, and sometimes the symptoms became typhoid. In these last cases he was glad not to have given alkalies. He had noticed in the *Guy's Report* that opium was sometimes given; he himself had never used anything except belladonna applied over the heart.

Dr. Gull said the opium was not given except when absolutely necessary, and then not against the rheumatic process, but merely to relieve pain.

Dr. Dickinson said that, as to heart disease, he doubted its frequent occurrence in hospital. Out of 113 cases of heart complication he had collected, 35 occurred in the hospital, or about 1 in 4. In 28 cases treated without alkalies 12 were seized in the second week, 7 in the third, and 6 in the fourth.

On the motion of the President, the debate was adjourned.

At the meeting on the 26th instant, Mr. Solly, President, in the chair, the adjourned debate on Dr. Gull and Dr. Sutton's paper was resumed by

Dr. Daldy, who asked what was intended by acute rheumatism, and pointed out that many forms of disease are included under the term as commonly employed. There is the lithiasis, for which Dr. Warren the elder said that six weeks was the best remedy. Were we asked to do nothing for this? Then there is a subacute rheumatism, which resembles remittent fever plus rheumatism, and tends to a natural termination in seven, fourteen, or twenty-one days. Some of the cases recorded by Dr. Gull, in the *Guy's Hospital Reports*, appeared to be of this character, and the natural duration of the disease would be in harmony with the results recorded.

Dr. Handfield Jones pointed out the great dissimilarity between different cases of acute rheumatism, and insisted upon the insufficiency of the phenomenal study of disease, unless it led on to something more. In rheumatism he knew only the phenomena, and treated them empirically. He thought that differences in the duration of the cases were partly due to differences in the recuperative power of patients. In cases where there was high fever and great formation of acid, acid sweat, acid mouth, acid urine, he thought alkalies were indicated, and he found them grateful and beneficial to the patients. Where there was not this tendency to acidity, he should not expect benefit from alkalies; and he had obtained good results by the use of quinine in large doses, twenty or thirty grains daily. Where there was much pain and swelling of the joints, blisters were useful; but not if there was much pain, with only slight swelling. Before attempting to arrive at results by statistical means, he thought we should determine whether what we call acute rheumatism was really one disease, in the sense in which scarlet fever or measles is a disease, or whether the term included several forms of morbid action.

Dr. Wynn Williams thought the discussion had wandered from the point, which was whether mint-water or medicine should be given to the patients. He took it for granted that every practitioner knew what was meant by acute rheumatism, and could distinguish it from subacute. He had himself suffered from acute rheumatism severely, and more than once. He had tried in his own case the do-nothing plan, and also the alkaline plan, and as the result of his own experience, he strongly advised the use of the latter. Much relief might often be given to painful joints by surrounding them with spongio-piline, soaked in a hot lotion containing subcarbonate of potash and laudanum.

Dr. Wilks thought it the duty of as many Fellows as possible to give their opinions upon the question. He was himself more or less in accord with the authors of the paper, both from his own experience and from the merits of the paper itself. After long experience, he still did not know what was the best

remedy, and found that the actual cases are far from being uniform. He had used all the suggested remedies in turn, and had found them all nearly equally successful. It was quite time that such a paper should be read before the Society. He remembered a discussion four or five years ago on the same subject, in which every speaker advocated his own remedy, and in which, if a non-medical visitor had inquired whether the disease would get well of itself, no one present could have answered the question. The method pursued by the authors was the only legitimate mode of investigation, and men who did not follow it rushed blindly into the use, in all cases, of any much-vaunted medicine of the day, such as bromide of potassium, carbolic acid, or what not.

Dr. Billing had hoped that before the last speaker sat down he would have given his opinion about the utility of giving mint water—that is, of doing nothing—in acute rheumatism.

Dr. Sibson inquired whether the treatment of the authors was indeed doing nothing? He thought not. He maintained that it was doing what was both more desirable and more difficult than writing prescriptions upon paper. It was placing and maintaining the patient in the condition most favorable to recovery, and shielding him from every hurtful external influence. Nothing required so much care and skill as to do no harm; nothing was more worthy of remembrance than the Hippocratic maxim, "To do good, if possible, but not to do mischief." Was there not a common element in all the methods that had been discussed? and was not that element the warmth and rest of the hospital, as contrasted with the conditions of the patient's home? For two years past he had treated all cases of acute rheumatism at St. Mary's without internal drugs, but with much care. Many years ago he had seen a patient walk convalescent out of St. George's to return two days later with a fresh attack; and he thought that the difficulty of enforcing proper rest after pain had subsided was one of the chief causes of relapse. At St. Mary's the chief points were—1. Absolute rest in bed, insured by swathing the arms and legs in cotton wool, and by supporting the feet by pillows, so as to relieve the ligaments from their weight. 2. The removal of the pressure of the bedclothes by a cradle. 3. The removing of local pain by smearing the affected joints with belladonna liniment, sometimes strengthened by rubbing down the extract in it. He attached little importance to the mere duration of the cases, and all importance to the safety of the heart. He believed that the plan he had laid down, by causing the heart to be called upon for a minimum of exertion, did preserve it from risk in a very great degree. If the articular pain were very severe, with much redness and swelling, he would apply a few leeches; if without much redness, he would inject a little morphia under the skin. He objected, on principle, for himself, to the peppermint water, not approving of pretended medication. For the anæmia and weakness of convalescence he gave a little iron and quinine.

Dr. Billing rejoined that, although giving mint water was doing nothing, the plan they had just heard could not be so described. It was, however, not the work of a physician, but of a nurse. He was well assured that there was a better method of treating acute rheumatism than by the administration of mint water.

Dr. Anstie confessed himself to be without distinct belief in the efficacy of any treatment other than that described by Dr. Sibson. Still, the use of alkalies had not been scientifically condemned; and there appeared to be a good deal of evidence from experience in favor of them. Before giving them up as of no value, we ought to ascertain whether those who fail with them carry them far enough, and really produce alkalinity. In some hospitals, he knew, this matter was carefully tested; but he thought many failures were perhaps due to the treatment not being far enough. A friend, whose absence he regretted, and whose name, which in his absence he would refrain from mentioning, would be recognized as that of one of our best observers, was in the habit of using alkalies in very large doses, and with marked success. The use of nitrate of potash was sometimes erroneously described as alkaline treatment; this salt being in no therapeutic sense an alkali, but a sedative of very peculiar character, and owing any efficacy it might have to its sedative properties alone. He depre-

cated leeching under any circumstances, and thought the hypodermic injection of morphia the best method of relieving pain.

Dr. Leared inquired whether there was any reason to believe in the actual presence of lactic acid in the blood of rheumatic patients, and whether the perspiration became alkaline under alkaline treatment?

Dr. Reginald Thompson said that, as Registrar of St. George's, he wished to state that exactly 100 cases of acute rheumatism had been admitted into the hospital during the years 1866–67. Of these cases, 48 were admitted with heart complication, 21 were attacked by heart complication while in the hospital, and 31 remained free. Twenty-three were cases of pericarditis, of which 6 in each year came on after the patients had been three days in hospital. Excluding these patients, whose stay was protracted, the average stay in hospital was 22 days in 1866, and 26 days in 1867. Alkalies were given in large doses, and the urine was always rendered alkaline. The average stay in hospital of the cases complicated with pericarditis was 46 days; and in the cases in which the date of the commencement of the attack could be accurately determined, it occurred in one case on the 9th day, in two on the 11th, in one on the 22d, and in one on the 49th. The crisis of the disease was usually on the 7th, 8th, or 9th day.

Dr. Habershon observed that he thought the frequency of relapse bore some proportion to the depressing effects of previous treatment; and believed that he had seen morbid irritability and other bad symptoms in connection with the use of very large doses of alkalies.

Dr. Dickinson wished to supplement his observations in the former debate by saying that, when Registrar of St. George's, he saw a large number of cases of acute rheumatism treated by different methods, and under the care of different physicians. Of 110 patients treated by different methods, among which might be mentioned bleeding, and the use of mercury, of guaiacum, and of iodide of potassium, 35 had endocarditis or pericarditis, coming on in the house after treatment was commenced. Of 47 patients treated by alkalies, there was only one in whom the commencement of heart disease was discovered after admission. This was a case of pericarditis. Alkalies should be used with discrimination and care, and only in the cases of acute acid rheumatism, which are precisely those in which the heart is most prone to be attacked. He believed that the alkaline treatment shortened the duration of acute rheumatism to some extent, but that its great value was in the protection it afforded to the heart. He would be glad to hear how the hearts had fared among Dr. Sibson's patients at St. Mary's.

Dr. Sibson had not then strict statistics upon the point; but was able to say that he had never before had so small a proportion of cases of heart disease. Without comparison with the statistics of other hospitals during the same period of time, it would be impossible to say how far this might be due to the treatment. He had been astonished to find how few patients went out with apex murmur.

After some remarks from Mr. Macilwain,

Dr. Sutton briefly replied. He said that Dr. Fuller had complained of the omission of the dates at which the patients left the hospital. The dates were wholly unimportant, because some patients had been kept in hospital to test the permanence of the cure; others until arrangements were made to send them to the country; others for other reasons. With regard to diagnosis, he admitted that it was not always easy to draw a line between rheumatic fever, acute rheumatism, and some cases of acute gout. He believed all the cases in the paper had been fairly named. Many of them were in young females; and certainly none of them were gonorrhœal rheumatism. Touching the date of the commencement of pericarditis, he called attention to the possibility of overlooking the very strictly localized creak, which sometimes exists for three or four days before being developed into a well-marked murmur.

ART. 13.—*The Treatment of Acute Rheumatism.*

(*British Medical Journal*, January 2 and 9.)

Guy's Hospital.—Dr. Wilks considers rheumatic fever one of the most difficult diseases for study, the principal questions for elucidation being its natural progress; the most usual time for heart-implication; whether any remedies will cut short the disease; and, if so, whether its curtailment prevents the cardiac affection. Dr. Wilks says that individual practitioners will answer such questions most positively, but the profession is by no means agreed about their solution. Although he entertains a doubt as to the best method of treatment, he can fully endorse the statements made by the enthusiastic supporters of each particular remedy. He has fully tried them all, and has seen patients rapidly recover under the use of lemon-juice with a diminution of the pulse; he has had several cases where the blister treatment has been followed by the most marked success; he has given salines in large doses, and with a speedy good result; and he has adopted the eliminative plan of wrapping the patient in a blanket with the most marked benefit. His difficulty is, not that these plans always fail, for they then might for ever be put aside, but that they appear eminently successful. This is the good side of the case; the other picture is, that they all sometimes fail; the patient lingers on week after week, sometimes with the articular affection alone, and sometimes with the chest-complication. He had endeavored also, by the most careful analysis of symptoms, to discover the connection between the time of the occurrence of the alkalinity of the urine and the abatement of the symptoms; but without success, although very often the doctrine usually taught that the symptoms depart when the urine becomes alkaline, is found to be true. It was owing to this uncertainty as to the best mode of treatment, that the physicians at Guy's determined to study the disease uncomplicated by remedies; for it was assuredly true that no one knew what course rheumatic fever might take if left alone, or at least no one was supposed to know. Dr. Wilks believes that the treatment almost universally adopted until quite lately was equivalent to the "do nothing" system; that the few grains of saline three or four times a-day could have had no influence in checking the disease. The medical man was well satisfied with himself because the patient did not die, forgetting that rheumatism, with its complications, is rarely a fatal disease. If a patient with this disease took the usual saline, and then had endocarditis, pericarditis, and pleurisy, and, after weeks in bed, escaped with his life, friends, patient, and doctor congratulated one another on the favorable termination. The only correct view which can be taken would be that by a medical patient himself; he would consider that his case had ended well if he escaped without cardiac disease, and ended badly if he rose from his bed with an affection of the heart. He would say to his adviser, Cut the disease short if this will arrest its progress to my heart, but by all means let it run its course if by this means my heart will escape. Dr. Wilks thinks that it is by no means yet determined that absence of articular symptoms implies the less liability to cardiac disease, or that, after the administration of those remedies which are supposed to shorten the disease, the heart has more readily escaped. He has had lately two patients who were taking half a drachm of bicarbonate of potash every three hours, and very soon the urine became alkaline; after about two days the pains in the joints were lessened, but on the third day acute pericarditis appeared in both patients. In three other cases, now in the clinical ward, one is on quinine, another in blankets, and a third on the blister treatment; although the disease has been protracted, no cardiac affection has appeared in any of them. He thinks, however, that the two cases on the alkaline treatment were unusual, not on account of any antidotal influence excited by the medicine, but from the fact of the pericarditis occurring after the patient had been admitted. He thinks, that in most hospital cases the patient is never taken in until very ill, and then the cardiac inflammation already exists if about to occur at all; if not then present, it is not likely to happen under any treatment. He would not speak dogmatically on this subject, but believes it to be in the

main true; and, if so, it is only in private cases, where the patient is seen early, that the definite action of the remedies can be discovered. He would also insist on a fact, too often overlooked, that, whilst lymph on a pericardial surface at once makes itself known by the *frottement*, an equivalent inflammation of the endocardical surface might present no altered sound, and it would be only by the gradual thickening which subsequently takes place, that the fact would be known. This was the case of a man who had acute pericarditis, and it was a question whether there was also an endocardical sound synchronous with the rub; when the latter passed off, however, no murmur referable to the valves could be heard, nor at any subsequent period whilst the patient was in bed. After two or three weeks he was discharged; but before his leaving the stethoscope was placed over the heart, when a distinct systolic murmur was heard; this had been more than eight weeks developing

Dr. Wilks considers that the main point for consideration is the discovery of that treatment which will bring the patient through without implication of the heart; that the profession has not yet arrived at this, is certain from the fact of the thousands who die annually of cardiac disease having its origin in rheumatism. If treating a private patient, and having sufficient faith in orthodox remedies until they can be superseded, he prescribes the saline of acetate and nitrate of potash with an opiate at night, occasional blisters to the joints to relieve pain, with flannel next to the skin, &c. Since these notes were written Dr. Wilks has published an interesting paper in the *Practitioner*, recommending the use of tincture of aconite, which he has found of marked benefit, given in frequently repeated small doses, in several cases of acute rheumatism.

St. George's Hospital.—The treatment of rheumatic fever adopted by Dr. Fuller is essentially alkaline, and consists not only in administering salines and small doses of alkalies, but in pushing alkalies as rapidly as possible to the point of producing alkalinity of the secretions. When a patient is admitted into the hospital, Dr. Fuller's first care is to determine that the disease under which he is suffering is really rheumatic fever; for Dr. Fuller maintains, and acts upon the belief, that cases of rheumatic gout in its acute stage, simulate, and are often mistaken for, rheumatic fever. He asserts, indeed, that a want of discrimination as to the true nature of the disease is one of the causes of the failure which some persons experience in their treatment of so-called rheumatic fever by alkalies—true rheumatic fever yielding readily to these remedies, which exercise little control over acute rheumatic gout. The points of distinction on which Dr. Fuller mostly relies as indicating rheumatic gout are: 1, the complexion of the patient, which is seldom so pallid as in rheumatic fever; 2, the state of the skin, which is more inelastic and doughy than in rheumatic fever; 3, the existence of perspiration devoid of a strongly marked rheumatic odor; 4, tendency to swelling in the small joints of the hands; 5, the comparative absence of redness and coating of the tongue; 6, the absence of a copious deposit of lithates in the urine. When those conditions coexist, Dr. Fuller disregards the heat, pain, redness, and swelling of the joints, orders the patient out of bed, prescribes a cold shower-bath, and gives a generous diet, including meat and porter. At the same time, he administers bark and the mineral acids with cod-liver oil, or the mineral acids with tincture of iodine and cod-liver oil; or, if the urine be high-colored, acid and somewhat turbid, quinine or strychnine dissolved in citric acid, and given in effervescence with a dose of the bicarbonate of potash or soda, the secretions being regulated by an occasional alterative or a dose of some mild aperient. When, on the other hand, the case is manifestly true rheumatic fever, the alkalies—whether potash or soda appears immaterial, and Dr. Fuller often combines the two—are given to the extent of two drachms every three or four hours until the urine is rendered alkaline. Dr. Fuller usually prescribes two ounces of the haustus ammoniæ acetatis of the Hospital Pharmacopœia with one drachm and a half of bicarbonate of soda and half a drachm of acetate of potash, and this he orders to be taken in a state of effervescence in combination with half a drachm of citric acid dissolved in two ounces of water. The quantity of the fluid not only takes off from the nauseous quality of the medicine, but promotes its absorption, and thereby facilitates its action. As soon as the urine manifests an

alkaline reaction, the dose is repeated three times only in twenty-four hours; and on the following day, if the urine still remain alkaline, twice only. After three days, two doses only of this mixture in twenty-four hours usually suffice to keep the urine alkaline; and then Dr. Fuller adds two grains of quinine to each dose, or, if quinine be not well borne, he substitutes a mixture consisting of the haustus cinchonæ of the Hospital Pharmacopœia, with the addition of half a drachm of bicarbonate of soda and half a drachm of acetate of potash. Day by day, as the tongue cleans and the other symptoms subside, the quantity of alkali is cautiously diminished until a simple quinine draught is taken; but the condition of the urine is constantly watched, with a view to the immediate administration of a small quantity of alkali, should the least acidity call for its use. The diet is another point on which Dr. Fuller lays particular stress; he insists that strict abstinence from solid food is of far more importance than in gout. He gives beef-tea or broth throughout, and, if stimulants appear to be needed, does not object to their being administered cautiously; but he withholds solid food until the tongue is quite clean, and has often proved to his class in the wards that a too early recourse to meat will induce a relapse, and prevent convalescence. Under this treatment, Dr. Fuller says, the pains commonly subside in five or six days, and the patients are seldom ten days in bed. Moreover, the heart may be regarded as safe from attack; for, in two instances only, in the whole course of his hospital experience, has inflammation either of the endocardium or pericardium arisen after the patient has been twenty-four hours under treatment, and in one of these cases the alkalies had been imprudently abandoned under the belief that the patient was convalescent.

The treatment employed by Dr. Barclay is also alkaline. He follows out this plan after a long experience, believing that alkalies diminish the duration and the pain of the acute stage, and that by maintaining the alkalescence of the secretions the disease is less liable to become chronic. It prevents, almost invariably, he believes, inflammation of the heart after the system has been fully brought under the influence of the alkali. Dr. Barclay also gives mercury to improve and correct the excretions, and opium in modified doses to afford when necessary desired rest.

Edinburgh Royal Infirmary.—In the clinical wards of this infirmary the following treatment is adopted by Dr. Laycock. The details have been carefully condensed from the note books by Dr. David Ferrier, clinical assistant to his ward. The patient is put to bed with flannel next the skin, in order to favor and absorb perspiration and prevent sudden chill. When there is great pain and sleeplessness, a full dose of Dover's powder is administered. If the skin be hot and dry, a hot vapor-bath is resorted to with advantage. In cases of biliary derangement and constipation, the patient is freely purged. Calomel is generally given. The principal treatment consists in the administration of carbonate or nitrate of potash in drachm doses, every three or four hours, which Dr. Laycock finds greatly to alleviate the suffering, and considers beneficial in promoting the elimination of irritating substances from the economy. The treatment is the usual diathetic treatment of rheumatic affections in whatever form they occur. When the rheumatic affection is of the bursal form, colchicum is combined with the alkaline remedies. Quinine is given in those cases characterized by great irritability and restlessness with marked benefit. Opiate, alkaline, or nitrate of potash epithems, are applied to the affected joints. Blisters are not generally employed, except in cases of long continued pain in particular joints. In such cases they seem to produce marked relief in a short time. Lung complications, such as pleurisy, pneumonia, &c., are treated diathetically by alkalies and by the local application of opiate or alkaline epithems over, or a blister near, the seat of pain. If a heart affection be established, the treatment consists in giving a quarter of a grain of opium and a quarter of a grain of calomel in a pill every two or three hours. Heart affections are not so liable to come on when treatment by alkalies and the wrapping-up in blankets has been adopted at the commencement of the disease. The cases of heart complications are chiefly those where the affection was established before admission into the hospital. In cases of head complications, with delirium, opium is given only in those characterized by muttering delirium;

and is avoided if there be any signs of cerebral irritation or excitement. When convalescence is established, quinine, iron, bitter tonics, and good diet is the rule of treatment. The average duration of acute uncomplicated cases treated on Dr. Laycock's principles is three to four weeks.

Leeds General Infirmary.—Dr. Chadwick, after much experience and a vast variety of changes in the course of thirty years, now relies upon bicarbonate of potash, in twenty grain doses, every four hours, and keeping the patient in blankets. The only difficulty he finds is some symptom or rule when to cease the administration of the remedy. The change from the sour perspiration and the alkaline condition of the urine may point to a less frequent administration, but does not warrant him in changing it altogether. Since he adopted the "sleeping in blankets," he believes he has had less endocardial and pericardial complication. His colleagues pursue a practice almost analogous.

Netley Hospital.—At Netley Hospital there are few admissions from acute rheumatism, most of the patients being men invalided from foreign stations. The disease is treated at Netley by Dr. MacLean chiefly by alkalies; bicarbonate of potash, in combination with nitre, being given in full doses until the urine is made alkaline, when the doses are diminished so as merely to maintain the alkaline conditions of the urine. Rest is obtained by sedatives, in combination with the wine of ipecacuanha. Joints that are particularly affected are enveloped in pads of lint soaked in a hot alkaline solution. If there be much pain, the hypodermic injection of morphia is resorted to. The plan of Dr. Chambers, of making the patients lie between blankets, is also invariably followed.

St. Bartholomew's Hospital.—Dr. Farre's ordinary mode of treating acute rheumatism is the "alkaline." He usually commences with three five-grain doses of calomel, followed by haustus sennæ; and repeats this daily till the evacuations are natural. At the same time, he gives the bicarbonate or acetate of potash, in twenty or thirty-grain doses, every four or six hours, according to the severity of the attack, generally using the former, but preferring the latter when there is synovial effusion. When there is little or no perspiration, or when the heart is much excited, he adds ten or fifteen grains of nitrate of potash. He not unfrequently also gives one grain of opium every night. For local treatment, especially of the smaller joints, he relies chiefly on the tincture or liniment of iodine, using the tincture for women and children, the liniment for the robust; one or the other of these is used in almost every case, and with nearly certain relief. When, however, there is synovial effusion, Dr. Farre uses either mustard or cantharides plaster. Mustard is always useful, especially when applied to the larger joints, as the shoulder. The appetite being always faulty, Dr. Farre gives milk diet until the tongue is clean, or cleaning. Meat given before it can be digested immediately brings back pain in the joints. He keeps the patient between blankets. As soon as the pain has gone, and the tongue is clean, he gives bitter tonics, omitting or diminishing the alkali if the urine is alkaline or neutral. If the tongue remains white after the pain has gone, he gives acids instead of alkalies with the bitter. Warm baths, he believes, are useful and refreshing when the patient can be moved without much pain. This treatment Dr. Farre has adopted, with little variation, for many years, and is very well satisfied with the result. The relief generally commences in forty-eight hours, often before. In some cases, however, the rheumatism shows a disposition to return. These he treats, as Dr. Nevins does, with quinine and iodide of potassium, and, in most cachectic cases, gives quinine early (as soon as the evacuations from the bowels are healthy), either with or without iodide of potassium. In the same cases, too, he gives cod-liver oil. Iron he only uses when the patients, during convalescence, are pallid. His treatment, then, consists in calomel purges, bicarbonate or acetate of potash, tincture of iodine or blisters; blankets; milk diet till the pain subsides; then bitter tonics, with smaller doses of potash, or with iodide of potassium, or with acids.

St. Thomas's Hospital.—The plan of treatment adopted by Dr. Peacock, in cases of acute rheumatism, is chiefly the alkaline and eliminative methods, giving full doses of the bicarbonate of potash, with nitrate of potash, and, not

unfrequently, iodide of potassium; and, in the latter cases, usually combining the remedy with small doses of colchicum. Latterly, he has employed blisters freely, in such cases as admitted of their use; and, provided several joints are affected, so that four, or five, or six blisters can be applied at the same time, the beneficial effect is most striking: the local symptoms are very markedly and rapidly relieved, the constitutional disturbance is lessened, and the disease cut short; so that cardiac symptoms are prevented, or arrested, if in process of development. He has not, except in very exceptional cases, relied wholly on the local treatment, but has added it to the constitutional measures which were previously in use, and the additional benefit gained is often most striking. It is applicable especially to the more intense cases of rheumatic fever; but is also very useful in those cases which are of such common occurrence, where the disease develops itself in persons previously most reduced in health, and more particularly in persons who have previously had the disease, and often with cardiac complication. In such cases, if the disease be not rapidly arrested, the cardiac symptoms are almost sure to be aggravated; and the surest means of effecting that arrest he believes to be the use of eliminative treatment and free blistering. Such persons, also, should not be reduced, if it can at all be avoided.

King's College Hospital.—The main points on which Dr. Johnson insists, are: that the patient should wear a large, loose, soft flannel dressing-gown, instead of a cotton shirt; this should be changed at least every other day. If the pains be severe, he gives moderate doses of opium—half a grain or one grain, with two grains of quinine, three times a day. If the bowels be confined, a seidlitz powder may be given every morning. He generally gives moderate doses of alkalies—one scruple or half a drachm of bicarbonate of potash, with or without citric acid, every four or six hours. He is not satisfied that large doses of alkalies prevent cardiac complications; and he believes that they increase the tendency to rapid anæmia. In subacute cases, and in all cases where the skin does not act freely, he finds that hot-air baths are very useful. In cases of cardiac complication, especially pericarditis, with pain, he applies six leeches; then linseed poultices. He abstains from blisters and counter-irritation in the early stages of pericarditis. In cases of endocarditis, in order to lessen the tendency to deposit fibrine on the inflamed valves, he gives five-grain doses of sesquicarbonate of ammonia with the alkaline mixture.

Middlesex Hospital.—Dr. Goodfellow, from a long experience, has eventually arrived at the conclusion that large and frequently repeated doses of alkalies, chiefly the nitrate of potash, in doses twenty grains at a time, with smaller doses of other alkalies, are more effectual in cutting short the attack, and rendering the heart less liable to organic affection, than any other remedy. He, at the same time, applies cotton-wool to the præcordial region. If the joints be tense and painful, nitre poultices or wet compresses are applied; and, if they be less acutely affected, cotton-wool. He advocates flannel being worn to encourage perspiration. He strongly deprecates the practice of exposing the chest to the extent usually done, and percussing the præcordial region more than is absolutely necessary, as he believes that pericarditis may follow such a course, or, at least, existing attacks may be increased in severity.

Westminster Hospital.—Dr. Finchan has employed the treatment by blisters for some time, and he is satisfied that by this plan the relief produced is very great, and the duration of the malady shortened. He is in the habit, however, as a rule, of combining with it alkalies in full doses—*e.g.*, Pot. bicarb., ℈ij; pot. nitratis, gr. x; liq. amm. acet., ʒij; aquæ pur., ʒx—every four hours; with a full opiate at night if the pain be very severe. He does not, however, think it advisable to continue the alkaline treatment for any lengthened period, but to give quinine, in doses of two or three grains, every six hours when the urgent symptoms begin to yield, especially if the sweating is over profuse. He believes that by giving quinine earlier than is generally the custom, convalescence is less tedious, and there is less chance of relapse. As regards cardiac complications, if pericarditis supervene, and there be sharp catching pain, he applies a few leeches, followed by linseed poultices; should the pain be slight or absent, he omits the leeches. In all cases he applies subsequently one or

more blisters. As to medicine, he continues the alkalies, giving at the same time a grain of opium every four or six hours. Should endocarditis manifest itself, he contents himself with the alkaline treatment, as he cannot satisfy himself that local remedies have any effect.

In Dr. Basham's wards, typical cases of acute rheumatism—acute rheumatic fever—with inflammation of several joints, simultaneously or in succession—with or without cardiac complication, full, hard, bounding pulse, elevated temperature, loaded tongue, characteristic acid sweat, scanty urine loaded with urates, thirst, and general febrile prostration, are treated chiefly with salines: either the nitrate of potash, largely diluted, and given as a drink, acidulated with a little lemon-juice, or with the bicarbonate of potash and carbonate of ammonia in a state of effervescence, with lemon-juice. When great restlessness and loss of sleep, caused by the local pain and swelling, prevail, Dover's powder and nitre, in equal proportions, are given at bedtime. For the relief of the local distress in the joints, gloves for the hands, caps for the knees, and socks for the feet, made of Markwick's spongio-piline, are moistened with a hot solution of nitrate of potash and applied, and the parts thus kept in a hot saline bath day and night. Dr. Basham rarely finds that the affected joint does not recover its mobility, and is free from all but stiffness, in twenty-four or thirty hours. To render the saline plan of treatment the more efficacious, Dr. Basham recommends that the state of the alvine secretions should, in the early stage, be ascertained, and if of the characteristic hard and offensive form, one or more brisk mercurial purges should be given to facilitate the action of the salines. As soon as the tongue cleans, and the urine becomes abundant and clear, he gives quinine or some preparation of cinchona bark and a mineral acid, with improved diet, to promote the convalescence. Cardiac complication, if not present on admission, Dr. Basham finds rarely manifests itself during this plan of treatment.

German Hospital.—The principal methods of treatment employed at this hospital during the last seventeen years have been the following: 1. Nitrate of potash, in doses of from two to six drachms per day; 2. Bicarbonate of soda, in doses of from two drachms to an ounce per day; 3. Acetate of potash, from two to six drachms per day; 4. Lemon-juice, from five to thirty ounces per day; 5. Quinine, from fifteen to forty grains per day; 6. Blisters above and below the affected joints; 7. Simple nursing. The greatest number of cases, however, has been treated by bicarbonate of soda. Opium and other narcotics have never been given systematically; but occasional doses, to procure rest, have not been excluded from any of the methods mentioned.

The duration of the disease, as far as Dr. Weber's notes go, has varied, from the commencement to the termination, from ten days to eleven weeks; and from admission into the hospital to the termination, from three days to eight weeks. The proportion of heart complications originating during the stay at the hospital did not exceed ten per cent.; and in many of these it appeared so soon after admission as to cause the impression that the act of removal, and the movements connected with it, were the cause of the complication. The average duration of the disease in the cases treated with soda is slightly less than the average of all cases observed; and the same is the case with quinine treatment, and with the blistering according to Dr. Davies's plan. In several of the cases treated by blisters, the urine became albuminous, and mixed with blood-globules; but in less than four days after the application of the last blister it was free from albumen; and in no instance was permanent albuminuria the consequence Without entering into details, Dr. Weber mentions that his notes lead him to the inference that careful nursing, especially the keeping of the whole body, and of the affected joints in particular, as much as possible at rest, is by far the most important part of the treatment in acute rheumatism; that, however, narcotic remedies are occasionally very valuable; that, further, the alkaline treatment is useful in those cases in which it reduces the excessive frequency of the pulse, and the more than usually increased temperature in the course of a few days; but that is of little service if it do not affect these changes within four or five days. He is unable to say before the trial which are the cases suitable for the alkaline plan. The quinine treatment seemed to be beneficial in

those in which there were considerable exacerbations and remissions, and a certain degree of anæmia and pallor; and the blister treatment where the pain was accompanied by much swelling of the affected joints.

Glasgow Royal Infirmary.—The treatment in rheumatic fever, which Dr. Gairdner has usually followed, has been that by alkalies, and especially by acetate of potash, commonly aided by smaller doses of iodide of potassium, which last he began to employ systematically as part of the alkaline treatment since going to Glasgow, and much on the recommendation of Dr. Ritchie of that city, who was long in the habit of combining it with the acetate. The proportion he usually employs is one drachm of iodide to one ounce of acetate in one pint of water, with any syrupy excipient that may be preferred to give flavor and take off the bitter saline taste. Lately he has tried the blister practice of Dr. Herbert Davies, and, he thinks, with good success in some cases, certainly with manifest relief at the time. But he has not learned to trust entirely to this treatment, and has used it only along with the other. The joints are commonly wrapped in cotton wadding, whatever the treatment in other respects. In a few cases he has used considerable doses of quinine, in a few, arsenic; in very many, opium; either as a principal or as an accessory remedy, and often in pretty high doses.

Queen's Hospital, Birmingham.—At this hospital, the number of cases treated is very large, and many are of great severity. The following treatment is that adopted by Dr. Fleming. The patient is placed between soft blankets, and carefully protected from cold draughts. A meal is given every four hours, consisting, during the fever, of milk and strong beef-tea alternately. The diet is cautiously improved during convalescence. One hour before each meal, this draught is administered: Potassæ bicarbonatis, gr. xxx; aquæ, ℥ij. M. Add half an ounce of fresh lemon-juice, and take the mixture during effervescence. If there be high fever, from one to three minims of Fleming's tincture of aconite are added to each draught. If there be much pain in the muscles, in place of aconite, from five to ten minims of tincture of hemlock are added to each dose of the alkaline. If, on the other hand, the periosteum be affected, from two to six grains of the iodide of potassium are given. To relieve pain and secure sleep, Dr. Fleming orders, at bedtime, a full draught of morphia and Indian hemp; as a drink, potassa water or lemonade freely. If necessary, colocynth and hyoscyamus pill is given to relieve the bowels. Cotton wadding is applied to the affected joints. Active and repeated counter-irritation and poultices over the heart are employed in cardiac inflammations. During convalescence, warm clothing, full diet, with quinine and iron. After considerable experience, Dr. Fleming has found that this treatment has furnished very good results; and that the number of those attacked with cardiac inflammation *after* their admission into the hospital is undoubtedly small. Placing the patient between blankets materially promotes perspiration, and prevents chill. In two recent cases where this plan was followed, sudamina appeared over the entire surface. The contents of the vesicles were ascertained by Dr. Sawyer, the resident physician, to be alkaline, not acid.

ART. 14.—*Tables Illustrating the Effects of Remedies upon Uncomplicated Acute Rheumatism.*

By W. H. DICKINSON, M.D. Cantab., F.R.C.P., Senior Assistant Physician to St. George's Hospital, and to the Hospital for sick Children.

(*The Lancet*, February 20.)

These tables furnished the basis of a paper in the forty-fifth volume of the *Medico-Chirurgical Transactions*. They supply the following facts: 161 cases of acute rheumatism, as yet without evidence of cardiac affection, were admitted. In thirty-six of these, heart complications arose while the patients were under treatment. These complications, though more frequent early than late in the disease, were found to have come on at all times during the first four weeks of the rheumatism. The cardiac disturbance was found in the first week

of the disease in twelve cases; in the second, in nine; in the third, in five; in the fourth, in three. In seven cases the date of the murmur was uncertain.

These statements, Dr. Dickinson states, cannot in strictness be looked upon as contributing to the "natural history" of rheumatism, for all the patients were subjected to the therapeutical measures, and some to measures which, there is reason to believe, conferred such protection upon the heart as to reduce the proportion of cardiac affection.

A nearer approach to the natural proportion of cardiac disturbance would, probably, be obtained by excluding all the cases subjected to alkaline treatment. This would give 35 cases of heart affection coming on in hospital among 110 of rheumatism.

The chief object is to examine into the frequency of cardiac mischief in relation to different methods of treatment.

Of the 161 cases of rheumatism, 48 were subjected to the alkaline treatment —that is, to the daily administration of between half an ounce and an ounce and a half of the carbonates and vegetable salts of potash and soda. 3 cases were treated with salts of ammonia. 110 cases were treated by various means other than the full alkaline system, including bloodletting, mercury, nitre, guaiacum, opium, iodide of potassium, quinine, and such small doses of the alkaline salts as are described as "partial" or come under the designation of salines.

Among the 48 patients under alkalies, one case of heart affection was recorded: among the 3 under ammonia, none; among the 110 under treatment other than alkaline were recorded 35.

Thus the alkaline treatment gave a proportion of heart disease of 1 in 48; non-alkaline treatment a proportion of heart disease of more than 1 in 4. The number of cases is large enough to afford a weighty deduction.

It is, of course, not unlikely, as the notes which the tables represent were taken for the most part in the ordinary course of hospital work, that a slight or transient murmur may now and then have been overlooked; but this source of error must have affected alike all modes of treatment. With the evidence before us it is not possible to question that, as compared with the other methods in use at the same time, the alkaline system gave a much smaller proportion of cardiac disease.

Under alkalies the duration of the disease was shorter than under most other plans, a point, however, of little importance as compared with the safety of the heart.

It is not necessary to consider other remedies; venesection and mercury are practically abandoned in acute rheumatism. Next to the alkalies, nitre appears to give the best results. With regard to the other drugs which are represented in the table, we can trace no advantage from their administration, and need not too precisely inquire whether they are mischievous or merely useless.

With regard to Dr. Davies's blistering system—a method of treatment of which the tables give no example—from clinical evidence as well as the theoretical probability of the withdrawal, by this means, of a rheumatic poison, we may believe it to be attended with advantage. On the other hand, it is inconvenient to the patient, and probably does not protect the heart to the same extent as can be claimed for alkaline medicines.

It does not seem, the author writes, that any method of treatment which has yet been invented is able entirely to do away with the tendency which acute rheumatism has to affect the lining and covering membranes of the heart. Of late years, alkalies in some form have been almost invariably used at St. George's in cases of this disease; thus a much larger number of cases have every year been subjected to this treatment than was formerly the case. Dr. Reginald Thompson, the present medical registrar, has collected a considerable number of cases both of endocarditis and pericarditis, under alkalies; but it is not necessary to dwell upon this fact, since, as no other method of treatment has been employed to any extent during the same period, we have no means of comparing these cases with others under different circumstances. Though it must be allowed that heart complications occur occasionally under alkalies,

the conclusion may fairly be drawn that, as compared with other modes of treatment, alkalies give the best results.

It may not be out of place to refer to the experience of Dr. Fuller, who was the early, and has been the persistent advocate of the alkaline treatment. He states that among 168 cases of acute rheumatism, the heart became involved, subsequent to the commencement of the treatment, in only five.

Whether alkalies give better results than mint-water, or what is called expectancy, is a question to which the details Dr. Dickinson has given supply no answer. A few words of practical suggestion, the author adds, may form a not unwelcome conclusion.

In order to obtain the best results from the alkaline treatment of rheumatism, it is necessary that it should be regulated with a watchful care. In the beginning of the disease, when there is rapid production of acid, the alkalies should be given freely, and above all, frequently. Taking the urine as a guide, it should be made alkaline as soon as possible, and kept so with no intervals of acidity. To do this, the salts must be given at first in considerable doses, and at short intervals; three or four scruples every two or three hours, as ordinary treatment for an adult. As the disease progresses, and the acid tendencies of the patient diminish, it is necessary to lessen the strength and the frequency of the medicine in a gradual manner, with continual reference to the urine, guarding against excess of alkali towards the end of the disease as carefully as against deficiency at the beginning.

It appears to matter little whether potass of soda, vegetable salts or carbonates are used. Citrate of potass may be given alone, or with acetate or bicarbonate. Nitre and acetate of ammonia are, at St. George's, not unfrequently used as adjuncts. The form of prescription may be safely varied according to the circumstances of each case and the fancy of the practitioner. Perhaps a simple solution of citrate of potass in water is as effective and as little objectionable as anything. This salt, or its equivalent, may be given in the general quantity of about an ounce in the twenty-four hours; rather more at the beginning of the disease, less towards the close. In most cases quinine or bark may with advantage be added as the active symptoms wane.

ART. 15.—*Opinion of Irish Physicians on the Treatment of Acute Rheumatism.*

(*Dublin Quarterly Journal of Medical Science*, May.)

Subjoined are the opinions of a number of the principal hospital physicians of Ireland, with regard to the treatment of rheumatic fever:—

The remedial agents Dr. John Banks generally employs are, alkalies, opium, blisters and quinine. He believes it to be impossible to lay down rules applicable to all cases; but with the results of this complex treatment he has reason to be satisfied. The value of quinine in obstinate and frequently relapsing cases of rheumatic fever is not, he thinks, sufficiently recognized. Without claiming for any remedy, or any combination of remedies, the power of preventing with certainty the advent of complications, he is nevertheless impressed with the belief that treatment judiciously directed so as to meet the exigencies of each individual case, has the effect of shortening the disease and diminishing the proclivity to cardiac inflammation.

Dr. Thomas E. Beatty, ex-President King and Queen's College of Physicians, says, the most rapid recoveries he has seen in young persons have been from the free use of lemon-juice, from one to two ounces of which were given every third or fourth hour.

Dr. Charles Benson has no hesitation in stating his conviction that treatment *does* influence favorably the duration of the disease, and lessen the percentage of hearts damaged.

The treatment which he generally prefers is "the alkaline;" giving the bicarbonate of potass, for the most part with lemon-juice in effervescence, sometimes with decoction of cinchona, or with calomba, according as may best suit

the stomach, or condition of the patient in other respects. He usually combines colchicum and digitalis with these, giving, in twenty-four hours, from 30 to 60 minims of each, and at bedtime an opiate. Dr. Benson's favorite opiate is Dover's powder—10 or 15 grains at night, and, if there be much suffering, 5 grains three or four times a day in addition. He thinks the colchicum helps to eliminate the *materies morbi* from the system, and he fancies the digitalis promotes the same object, while by its sedative influence it lessens the danger of cardiac complication. He does not prescribe the bicarbonate of potass in such large quantities as Dr. Fuller recommends. It is too lowering for the citizens of Dublin. He seldom uses more than 4 drachms in the day. Sometimes he gives a little iodide of potassium also, and when the patient is scrofulous or tainted with syphilis, this appears to be useful. In delicate or scrofulous subjects he gives cod-liver oil freely, and the iodide of iron or some other chalybeate. Dr. Benson regulates the bowels with injections of soapsuds, to which he adds a little soda or potass to follow the alkaline plan, without too much distressing the stomach. When a joint is particularly painful he puts on poultices of linseed-meal, containing some potash or soda, and when effusion takes place into a joint he often has recourse to a blister. The jerking pulse and impulse which precede the murmur of endocarditis for twelve or twenty-four hours, suggested to Dr. Benson the employment of digitalis. When the heart is threatened, which may always be known by the jerking pulse and impulse, Dr. Benson applies blisters to some of the joints, and just below the left nipple—pushing the opiates and digitalis remedies still further.

Sir D. J. Corrigan, Bart., M. D., does not see why opiate treatment is to exclude blisters, &c., or *vice versa*.

Dr. John T. Drennan, M. D., writes: Blankets and cotton wadding as external application; moderate purgation, followed by the administration of the salts of potash (the bicarbonate and nitrate and the iodide of potassium), with opiates, or occasionally colchicum. Bark or quinine when the fever subsides, and the tongue becomes clean.

Dr. Henry Freke is strongly of opinion that although we can mitigate symptoms, we at present know of no means whereby we can cut short the disease, or with any approach to certainty reduce its duration. That there is no constancy to be recognized in the duration of the disease, but that either with or without treatment it *may* terminate in a fortnight or *may* last for two months. That if two patients in apparently similar circumstances, and presenting in every respect similar symptoms, be placed on the same line of treatment, one will occasionally recover in the course of twelve or fourteen days, while in the other the disease will frequently have a duration of seven or eight weeks, and that *whatever* be the line of treatment adopted.

Dr. Samuel Gordon has no doubt but that the alkaline and diaphoretic plan of treatment is of essential service in shortening the duration of rheumatic fever, and in lessening the probability of cardiac diseases. Even unaided, when carefully carried out it is of great value, but he attaches much importance to the constitution of the patient affected, and to the fact of it being a primary attack or otherwise. The preparation which Dr. Gordon generally uses is the combination of bicarbonate and citrate of potass—that is, he gives very large doses of bicarbonate of potass in effervescence with lemon-juice—giving a large excess of the bicarbonate.

If the patient be of a strong constitution, and the attack a primary one, Dr. Gordon usually adds small doses of tartarized antimony with great advantage. He thinks that when the depressing effect of antimony on the heart can be produced without vomiting, it proves most serviceable in averting cardiac complications. This was the plan of treatment usually adopted by the late Dr. Crampton, after he had given up the practice of venesection, and it was followed by great success. The use of opium Dr. Gordon considers to be indicated in those cases in which the fibrous structures are much engaged, and when not contra-indicated, he always prescribes it in the form of Dover's powder; but he never uses the opium without having first tried the alkaline and diaphoretic plan for at least 24 hours.

In asthenic constitutions, or when the attack is not primary, Dr. Gordon

finds great advantage from the addition of large doses of the iodide of potassium, combined in this as in all other cases in which he uses it, with small doses of aromatic spirit of ammonia.

When there is much local distress he applies the vesicating collodion freely, and afterwards a warm solution of the bicarbonate of potass covered with French wadding and sheet gutta-percha.

With regard to the occurrence of endocarditis as indicated by endocardial murmur, Dr. Gordon has long taught that the sign is most fallacious; the most severe and most intractable cases of endocarditis which he has witnessed have been unaccompanied by any murmur (*vide Dublin Hospital Gazette*, April 1, 1857), and on the contrary he is satisfied that on account of the existence of an endocardial murmur, numbers of cases are recorded as endocarditis in which no inflammatory exudation has occurred.

Dr. Hayden has given full trial to the alkaline treatment. His experience of it is, on the whole, favorable. It never fails to alleviate articular pain when pushed to the extent of rendering the urine alkaline in reaction. It should always, when not contraindicated by other considerations, be pressed to this point, short of which it fails to give relief.

Dr. Hayden is convinced, however, that the alkaline treatment, carried even to the point just indicated, does not confer certain immunity from cardiac complication.

Dr. Henry H. Head is convinced that every case of rheumatic fever should be treated strictly in accordance with the rules laid down by those who have adopted the "blanketing" system, and that the medical treatment, properly so called, should be added to it.

The result of Dr. Head's observation has been decidedly in favor of treatment by alkalies and their salts, in combination with the vegetable acids, in cases where the symptoms are very acute, characterized by quick, hard pulse, high temperature, and acid secretions, and where the constitution of the patient has been hitherto good; and he thinks he can assert, with perfect confidence, that where this course has been pursued, in combination with careful protection, cardiac complications have been extremely rare in cases where there was undoubted evidence that such lesion did not previously exist.

In the case of patients who have suffered from repeated attacks of rheumatism, when the character of the fever is low, or the constitution previously bad, the alkaline treatment (if adopted at all) should be carried out with great caution, and should be combined or very soon followed by the use of quinine or bark. Where the joints affected are numerous and the pain is very acute, Dr. Head has found very great relief afforded by the blistering method suggested by Dr. Herbert Davies; but although the alleviation of suffering is considerable, he does not consider that this treatment shortens the duration of the attack.

Dr. Alfred Hudson's impression is that the early and free exhibition of the alkalies or their neutral salts is prophylactic of cardiac affections. He even believes that they are the best curative measure which can be employed when endocarditis has actually supervened. In several instances he has known an endocardial murmur which, commencing at an early period, had persisted throughout the illness, to disappear gradually under the influence of large doses of the neutral salts, more especially of the acetate and nitrate of potash.

Dr. John Hughes's treatment has invariably been the quino-alkaline, with blisters to the joints to relieve pain, and a fair amount of nutritious diet; very rarely stimulants—opium combined with the mixture in small doses, or as a sedative at night to procure sleep.

Dr. Henry Kennedy for some years past has had the greatest confidence in what is known as the alkaline treatment laid down by Drs. Garrod and Fuller for acute rheumatic fever. Whilst, however, he speaks in favor of the alkaline treatment, he does not limit himself entirely to it. In by far the majority of cases the disease is attended by very severe suffering. Hence Dr. Kennedy has been in the habit of joining the anodyne to the alkaline treatment, and, he believes, with the best results.

Dr. Robert Law's treatment consists in a moderate venesection, almost never

exceeding eight ounces, and seldom requiring to be repeated; and in the exhibition of colchicum, either in the form of the tincture or the wine of the seeds, of which preparation he does not exceed a drachm in a six-ounce mixture, or the acetous extract in grain doses three or four times daily. When he considers it necessary to exhibit an aperient, which he avoids as much as possible in such cases, from the pain of the motion consequent upon the operation of the medicine, he directs the following mixture: Tincture of the seeds of colchicum, one drachm; tincture of senna, half an ounce; sulphate of magnesia, six drachms; peppermint water to six ounces. He has found considerable advantage and ease to the patient from combining opium largely with the colchicum. Dr. Law constantly directs a drachm of the tincture of the seeds of colchicum, and a drachm of liquor opii sedativus, in a six-ounce mixture; or a grain of the acetous extract of colchicum and a grain of the watery extract of opium in a pill, three times, or oftener, in the day. The local application to the inflamed joints which Dr. Law has employed with most advantage is the tincture of iodine, and especially where there is effusion into the joints, which, in most cases, disappears speedily under its use. Dr. Law has generally observed, where the pericardium or endocardium is about to be affected, there is, in general, previously an excited action of the organ, in which case he adds digitalis either to the mixture or pill. And when an attrition murmur, or a valvular abnormal sound, indicates pericarditis or endocarditis, he then combines mercury with the other medicines in the following formula: Acetous extract of colchicum, four grains; calomel, three grains; watery extract of opium, two grains; powdered digitalis, one grain. To be made into four pills; one to be taken every third hour. He also directs a blister to be applied to the precordial region, and the blistered surface to be dressed with mercurial ointment, in order to bring the system speedily under the influence of this medicine—convinced as he is of its power to effect the absorption of the effused lymph, whether deposited on the pericardium, or on the surface, or in the substance, whether superficially or interstitially in the valves. This is the stage of the disease when medicine can alone cure it. When the acute symptoms have passed away, and all fever gone, Dr. Law prescribes bark and hydriodate of potash, or quinine; and when stiffness of joints alone remains, warm baths. As long as the disease retains any of its acute character, so long will no benefit be derived from the warm bath; but so far from it the patient generally complains that his pains had been much worse.

Dr. Robert D. Lyons has adopted for some five years past a settled mode of treatment of rheumatic fever, the details and principles of which may be thus briefly summarized:—

The patient is placed in a flannel jacket, and between blankets, the sheets being removed from his bed. The joints affected are assiduously poulticed with a mash of camomile flowers and poppy heads, reduced to a soft state by being simmered for from one to two hours. These poultices are removed and replaced by fresh ones at intervals of three or four hours, and thus this soothing application is kept up "hot and hot," so long as pain and swelling continue to be complained of; and so marked and immediate is the relief thus afforded that the patients will be found frequently to ask urgently for a fresh poultice to a joint which is becoming affected. To procure sleep, and to ease and tranquillize the patient in this very painful malady, from one quarter to half a grain, or even a grain dose of opium is given every third, fourth, or sixth hour, according to the age of the patient, and the distress and urgency of the symptoms. The following alkaline mixture is next prescribed, the proportions and the vehicle of exhibition for which are altered according to the state of the patient's stomach. In eight ounces of the infusion of gentian, cascarilla, or any of the light bitters, half an ounce of the bicarbonate, two drachms of the acetate, and two drachms of the nitrate of potash, are ordered, with half an ounce of any ordinary flavoring syrup. Of this mixture one tablespoonful is administered every third hour, except when the patient is asleep. The diet is restricted to milk and any simple farinaceous food; and for drink, soda or kali water, or lithia waters in effervescence are allowed *ad libitum*.

Dr. Lyons' standing orders to the clinical clerks are to examine and record

the state of the heart and its membranes on the patient's admission. When, should cardiac complication exist, or should it be subsequently developed, *which rarely happens* when this plan of treatment has been put in operation sufficiently early, relays of leeches and poultices are placed ever the heart; but mercury is not now exhibited in Dr. Lyons' practice, except in the most rare and exceptional instances. When, as occasionally, though in his experience but very uncommonly, it may happen through squeamishness of stomach the alkaline mixture just described is not well borne, Dr. Lyons has recourse to the salts of lithia, given in distilled water with a little of the syrup of orange flowers.

The bowels are regulated by enemata, or a mild rhubarb aperient, with magnesia usta; but under no circumstances is the patient allowed to get out of bed, and he is at all times supplied with a urinal.

Tepid sponging, and the frequent use of dry warm (Turkish) towels are found to give great relief when the sweat is excessive. It has not been found necessary, in Dr. Lyons' experience, to leech or blister the joints, and to this latter procedure he avows an open and uncompromising hostility.

For this plan of treatment, as above detailed, and which has been pursued more persistently by Dr. Lyons than perhaps by any other of our Irish hospital physicians, he claims no originality whatever, but he avers the following conclusions in its favor:—

1. It gives immediate ease, by the local application, and the internal employment of narcotics. The patient thus passes with a minimum of suffering through an otherwise extremely painful disease, and often after the first day or two the patient complains of absolutely no pain or distress whatever.

2. The local application of heat, moisture, and narcotics relaxes the fibrous textures invaded by the *materies morbi*, urate of soda, or whatever other pathological product it may be, while the said *materies morbi* is not repelled from external parts, where, though the cause of pain, it is rarely if ever capable of producing ultimate serious organic mischief, as it will surely tend to do, if driven upon internal organs.

3. The alkali thrown liberally into the system affords, when circulated in the blood, a ready solvent for the urate, while the action of the nitrate and the acetate of potash promotes free elimination through the safest channel of exit from the body, that of the urinal excretion.

4. This plan of treatment, when fully and carefully carried out, diminishes the duration of the disease, and, in Dr. Lyons' opinion, lessens in a very high degree the liability to cardiac complication. So much is this the case, that in but an exceedingly rare number of instances has it happened that a patient admitted without cardiac complication has developed it subsequently in Dr. Lyons' clinique. Furthermore, his experience has shown him that in instances in which cardiac murmur was present on admission of the patient, the persistent employment of the alkaline plan with the adjuncts above detailed has had the result of removing the cause of the murmur, possibly in such instances constituted by limited deposits on valves not otherwise damaged.

With the experience of five years in hospital and in private cases, and with, as he avers, the happiest results as to diminution of suffering, shortening of the duration of the malady, an undeniable lessening of the tendency to cardiac complication, Dr. Lyons avows himself a warm advocate of the alkaline and narcotic plan of treatment above detailed. His results of treatment have before been brought to the notice of the profession, and have been witnessed by many visitors to his clinique.

Dr. William Moore is an advocate for the alkaline treatment, and after having given those in use, individually, repeated trials, he is disposed to place most reliance on the acetate or bicarbonate of potash, especially the latter, in doses varying from half a drachm to one drachm every fourth hour; having first relieved the chylopoietic viscera by a mercurial purgative. He has found this treatment, combined with an opiate at bedtime, *fluid* diet, and keeping up a general high temperature, particularly over the affected joints (which is best done by wrapping them in raw cotton covered with oiled silk), very satisfactory.

Dr. Moore states that although not armed with statistics, his experience

leads him to conclude that where the above treatment is steadily carried out, not only is the duration of the disease shortened, but endo- and pericardial complications are of less frequent occurrence.

Professor William Stokes has long disbelieved in the efficacy of any of the proposed specific treatments for acute rheumatism or rheumatic fever, including mercury, opium in large doses, bark, colchicum, alkalies, and acids. The disease, continued fever, will run its course, and the principles of treatment are the same in both cases. We are to support the strength and alleviate pain, and employ tonics in the advanced stages.

Some of the most protracted convalescences Prof. Stokes has ever seen were in cases in which, as was the practice long ago, the patients were at an early period, brought under the influence of mercury.

SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(A) CONCERNING THE NERVOUS SYSTEM.

ART. 16.—*On Headaches.*

(*Medical Times and Gazette*, March 27.)

Dr. Martineau has lately published an admirable monograph[1] on this subject, which is well worthy of careful study, for there are few symptoms which give the practitioner more trouble, both in a diagnostic and therapeutic point of view, than some of the anomalous forms of headache.

Headache may be general, extending over the whole of the cranial region, or it may be partial and circumscribed, and affect either a lateral half, when it is known as hemicrania, or a definite region, as the frontal or occipital, or it may be confined to a very limited spot, as the top of the head in certain cases of hysteria. The pain varies in intensity, and may be slight or violent, acute or dull. The pictures of their sufferings, as drawn by the patients themselves, are most varied. Some complain of a sensation of heat, tension, constriction, formication, pricking, and lancing, while others describe a sensation of tearing of the structures and of violent pulsations. Some complain that they feel as if the head were bursting, or as if it were being struck by a hammer, or as if it were compressed by a heavy weight, while others complain that the head feels light and vacuous. In some cases the scalp is so sensitive that even touching the hair excites pain. The functions of hearing and sight may be affected, and the patient may complain of abnormal sounds in the ears and various disturbances of vision, and in some cases the cutaneous sensibility of the face is affected. With these cerebral phenomena are associated certain symptoms presented by other organs, especially the stomach.

The duration of headache is as variable as is its intensity or seat. It may be ephemeral or permanent, lasting only a few hours or continuing for months or even years. In the latter case the pain is commonly due to a morbid diathesis, or to a gouty tendency, or a syphilitic taint. If the pains are due to syphilis, we may often get a diagnostic hint by observing the exacerbations which they undergo when the patient retires to bed. An illustrative case lately occurred in the wards of Professor Nélaton. A young washerwoman, suffering from syphilitic nodes, was frequently obliged to carry on her business throughout the whole night; and on these occasions there was no exacerbation of the headache from which she constantly suffered. But if she attempted to lie down during the day, the pain in a few seconds became so intolerable as to render sleep impossible. Indeed, whenever she attempted to lie down, the pain became so agonizing as to compel her to rise. Iodide of potassium in small doses soon effected a radical cure.

---

[1] Article "Céphalalgie," in the *Nouveau Dictionnaire de Médecine et de Chirurgie*, tome vi. Paris: Baillière. London: Baillière, and Williams and Norgate.

After noticing the various classifications of headache, based upon its causes, that have been proposed by various authors, Dr. Martineau divides them into (*a*) cephalalgia dependent on a lesion of the skin, or of the muscles and fibrous tissue, or of the bones of the head; (*b*) cephalalgia due to a lesion of the nervous centres; and (*c*) cephalalgia of a sympathetic or reflex origin.

The pains in the head experienced in erysipelas, rheumatism of the scalp, and secondary or tertiary syphilis, are examples of the first division. The headaches accompanying acute meningitis, the tubercular meningitis of children, cerebral softening, cerebral congestions, affections of the cerebellum, scarlatina, Bright's disease, &c., belong to the second division; while under the third division the author places the headaches that occur in the various forms of fever, in disordered conditions of the stomach and intestinal canal, diseases of the respiratory system (as pneumonia, febrile catarrh, influenza, acute bronchitis, &c.) in gout, in uterine affections, epilepsy, blood-poisoning, &c.

We must always carefully distinguish between a headache that comes on almost instantaneously in a healthy man and a headache attacking a person who is already an invalid. Our diagnosis and prognosis in these cases are very different. For example, if a man is suddenly attacked with intense headache, under special conditions of climate and season, in certain countries (especially in northern countries) the headache almost certainly indicated a malarial poisoning, while in hot southern countries such a headache would have a very different signification, and would point to abdominal and probably hepatic disorder, and would probably be the precursor of yellow fever. In the first case, the physician would at once have recourse to sulphate of quinine, while in the second the headache would give no special hint as to treatment. Remedies must, as a general rule, be addressed not directly to the headache itself, but to the seat of the disease which excites it. In the headaches accompanying a syphilitic taint, nothing is so serviceable as pills of iodide of iron (each containing a grain and a half) of which four should be given the first day, and the number should be increased by two daily. The headache usually disappears under this treatment in a few days. Headaches of a rheumatic nature, and sometimes even those that are symptomatic of cerebral disorder, are often much relieved by the local application of bags containing hot sand. This mode of treatment is much used by Trousseau. Lastly, in some very rebellious and obstinate cases, the application of a compress saturated with a solution of cyanide of potassium (1 part to 100 of water) has been found to be of signal service.

ART. 17.—*Narcotic Snuffs in Headache and Facial Neuralgia.*

By Dr. RAIMBERT.

(*Wien. Medizinisch. Jahrbücher*, 1, 1869, and *The Practitioner*, March.)

Dr. Raimbert, who has already obtained a certain amount of success with morphia used in this way, now recommends it further in conditions of nervous excitability which commence with sleeplessness, and are followed by severe headache. One and a quarter grains of morphia is mixed with about sixteen grains of gum-arabic powder; or, for children, about half the quantity of morphia. Of this powder from two to four pinches are to be taken, within half an hour or an hour, into each nostril. This is to be repeated two or three times daily.

ART. 18.—*A Case of Stomachal Vertigo subsiding under Treatment.*

Under the care of Dr. BUZZARD, of the National Hospital for the Paralyzed and Epileptic.

(*British Medical Journal*, December 19.)

In the third volume of his *Clinque Médicale*, Trousseau has described, with his usual graphic power, a functional disorder to which he gives the name "*Vertigo à stomocho læso*" or "*vertige stomocal.*" Transient giddiness asso-

ciated with faulty digestion is of every-day experience, but we do not often meet with an instance of such severity as the following, which bore a strong resemblance to the case upon which Trousseau founds his lecture.

The patient, James B., aged forty-eight, was a farm-laborer, a big, heavy man, of anæmic aspect, with a face seared by innumerable wrinkles. His hair and beard were gray, and his appearance altogether that of a man several years older than his asserted age. His complaint was of "giddiness in the head," of which he had suffered attacks for a twelvemonth past. About every ten days or oftener he would get an attack, which he thus described: His stomach would first appear to be filled with wind; then there was noise in his ears, especially the left ear, a noise sometimes as of ringing of bells or of a railway train upon the line. This was immediately followed by giddiness, so great that he could not stand without holding on to some support. Sometimes, but not always, there were little twinkling lights before his eyes. If he lay down on his back the room would appear to be swaying and whirling over him, and the only relief he could obtain was by lying on his face. An attack would last from half an hour to two or three hours, during which time he could do nothing. After that he could resume work, but felt queer, dull, and heavy about the head for two or three days afterwards. He never lost his senses during the attack. He sometimes retched but never vomited. The attacks had been more and more frequent of late. In his earlier attacks he used to feel numbness in both thighs, and broke out in cold sweats. He fancied that tea and pork were both liable to bring on an attack. His general health had been very good with the exception of indigestion, from which he had long suffered. At twelve years of age he had acute rheumatism. He had never had gout.

On examination, his pulse was found good and regular, the area of cardiac dulness not increased, the apex beat in its normal situation, and there was no *bruit*. Other organs were also, as far as could be determined, healthy, and he showed no thickening of arteries. Urine, free from albumen, containing abundant lithates. On January 21st, the day of his application, Dr. Buzzard ordered him a grain of iodide of potassium, five grains of bromide of potassium, and ten grains of bicarbonate of potash, twice a day, to be taken during meals. Under this treatment the attacks immediately diminished in frequency and duration. He continued taking this medicine till March 17th, when half a drachm of tincture of calumba was added to each dose. On April 7th, it is noted, "He is a great deal better. He occasionally gets a mistiness before the eyes, but has had no attack of giddiness for five weeks." On May 19th, the experiment was made of discontinuing the alkali and bitter, and giving him five minims of the solution of pernitrate of iron, three times daily. This did not answer; giddiness returned, and one grain of the iodide with five grains of bicarbonate of potash with a grain of tartarated iron was ordered twice daily. He continued to take this pretty regularly until September 8th, when he felt well enough to do without assistance. He had then had no attack of giddiness for twelve weeks.

Dr. Buzzard remarked upon the importance of a correct diagnosis in such a case as this, especially in private practice, where such excessive vertigo would be apt to be regarded by the patient and his friends as premonitory of some very serious head affection. The symptoms in this case were more than ordinarily severe, but, especially among professional men with much mental labor, it was not at all uncommon to meet with instances where less marked vertigo caused great distress and alarm. He had, indeed, lately treated a gentleman to whose temples leeches had been formerly applied for a vertigo which immediately depended, he had no doubt, as this man's did, upon imperfect digestion. They had made him much worse. It was amongst anxious persons, engaged in onerous business, that imperfect assimilation leading to such a symptom was peculiarly apt to occur, and for this reason, the affection was one which it was more common to meet with in private practice than amongst hospital patients. Whilst recognizing the influence of the stomach in causing these attacks, he believed that there was always a faulty condition of the nervous system which conducted to them—a condition, he thought, closely allied to the epileptic. In the case under consideration there was very evident anæmia; and, whilst he

gave alkalies to correct any acid (ascribable probably to acetic or butyric fermentation of food rather than to excess of gastric juice), he was careful also not to neglect the improvement of the man's blood by the use of steel. The iron at first ordered was given doubtless neither in the proper form nor dose, and it probably added to the difficulty of the stomach; the minute dose of a very mild preparation, the tartarated iron, answered well the intended purpose. As evidence of the probable morbid condition of the nervous system in such cases, he mentioned that he had seen patients in whom vertigo of precisely similar character was apt to be produced sometimes by faulty digestion, at others, through the medium of one or other of the special senses. Amongst such he instanced reading as liable, sometimes, to produce an attack; the rapid change of accommodation in the eye, caused by drawing distant objects; or gazing at moving bodies of troops. Occasionally, too, in persons so predisposed, shooting became an almost impracticable pastime owing to the vertigo induced by the noise of the discharge.

Art. 19.—*On Nervous Dyspepsia.*

By Arthur Julius Pollock, M.D., Assistant-Physician to Charing Cross Hospital.

(*The Lancet*, February 27.)

The following are the symptoms of nervous dyspepsia: The patient will complain of pain in the chest or "heart," which goes right through to her shoulders, and is often so bad that she can scarcely breathe. It comes on in spasms, and is often accompanied by palpitation of the heart, giving rise to a fear that that organ is affected. These pains usually occur after food or drink, and sometimes even a cup of tea will bring them on. There will often be a good deal of wind in the stomach and bowels, which latter are generally constipated. The urine is high-colored and scanty, or thick, the tongue coated as a rule with a yellowish fur, though it will not unfrequently be found quite clean or unnaturally red. She is sick at times, occasionally bringing up her food, but often nothing but water. The appetite is bad, the breath foul, and there is an unpleasant taste in the mouth, especially on waking in the morning.

The nervous symptoms are very various: great lowness of spirits and depression; anxiety without cause; an undefined dread of some impending evil; hot flushes and chills; the noise of her children distracts her; she cannot walk out in the streets, as the air feels "too strong" for her, and the number of people makes her very nervous; there is frequently headache, generally referred to the vertex, which she describes as feeling hot; her head "opens and shuts" at times; sometimes there are strange noises in the ears; icy chills run up the spine; there are curious sensations in the stomach and abdomen, as if something alive were in the bowels; flutterings about the epigastrium; a ball rising in the throat, &c. The catamenia are sometimes regular, sometimes occurring at intervals of three months or longer; and if the latter, the patient will attribute many of her uncomfortable sensations to "those things flying about her." Not uncommonly such a patient will have ceased to be poorly for a year or two.

The treatment of such a case is sometimes very simple and satisfactory; a few doses only of medicine, and a strict attention to the diet, bringing very great relief. More often, perhaps, the symptoms are rather obstinate, and it may take some weeks to effect much improvement. If the bowels are costive, the water thick or high-colored, and the tongue coated, Dr. Pollock generally begins by giving a mixture containing three grains of carbonate of ammonia, half a grain of ipecacuanha powder, three grains of rhubarb powder, twenty grains of bicarbonate of potash, to one ounce of peppermint water—three times a day, half an hour before meals; adding to it, if the nervous symptoms are prominent, half a drachm to one drachm of tincture of valerian. With this he orders some pills—the pil. aloes et assaf. of the British Pharmacopœia, five grains at night, when necessary; or if the bowels are pretty free, five grains of assafœtida every night. Dr. Pollock has reason to believe that the assafœtida is often very useful as a

nervine tonic, and in assisting to expel the wind; and he has been asked over and over again to give some more of "those" pills, in spite of their nasty smell and taste.

If there is much sickness, bismuth and chloric ether may be of great service, with or without the rhubarb and potash, and especially in those cases where the tongue is unnaturally clean. The author has not found much benefit from prescribing the liquor potassæ in nervous dyspepsia, nor from the dilute nitro-hydrochloric acid in the early stage, though at a later period this acid, with the compound infusion of gentian, is most useful in giving tone to the stomach. When the tongue becomes clean and the stomach less irritable, quinine will often complete the restoration to health; but he feels sure, from frequent experience, that it is worse than useless in the early stages, when the tongue is thickly coated and the stomach very sensitive.

The most important part of the treatment consists in great attention to the diet, and without which we cannot expect much from drugs. The food should be light and nourishing; it should be well chewed before swallowed; plenty of time should be taken over a meal, and not much food taken into the stomach at one time. It is difficult, from the circumstances of many patients, to get all this attended to; but most of them can do something towards it. Dr. Pollock thinks with regard to beverages, that as a rule it is best to avoid beer, by which he means malt liquor of any kind; and to replace the tea, which is often drunk in excess, by cocoa and plenty of milk. Weak cold brandy-and-water may be taken with advantage at dinner in many cases. With regard to beer, several patients have told the author that it is their only comfort, and seems to support and warm them; but he believes these feelings of comfort and support are usually dearly purchased by subsequent acidity and flatulence. Most dyspeptics have no appetite for breakfast, and, Dr. Pollock conceives, suffer a good deal in consequence from emptiness and flatulence. He has reason to know that taking breakfast for a few mornings, even much against the grain, will eventually create a desire for food at that time of the day; and as it is, perhaps, the most wholesome meal of any, much comfort will ensue. The author adds that heavy suppers are most injurious.

Art. 20.—*Treatment of Delirium Tremens.*

By William M'Crea, M.B. Lond., Chief Medical Officer of Victoria, Australia.

Believing that congestion and inflammation of the membranes of the brain were the true causes of delirium tremens, Dr. M'Crea began, in December, 1864, to use leeches in the aggravated cases, applying twelve under each ear; the effect, he says, was very striking and beneficial, the excitement being greatly reduced, and very often, sleep following very rapidly the application of the leeches. In some cases an aggravation of the symptoms came on again, and again twenty-four leeches were applied with corresponding benefit. In one case a third application of twenty-four leeches was necessary, with the effect of permanently controlling the disease. For the last three years (1865, 1866, and 1867) this practice has been pursued. The patients usually arrive at the Melbourne gaol about 3 or 4 o'clock in the afternoon. Dr. M'Crea sees them at once, and all cases are subjected to one uniform treatment. An emetic is first given; after it has ceased to operate, cold affusion is extensively applied to the head, and, if the emetic has not acted on the bowels (which it often does), a brisk purgative of sulphate of magnesia is given. The patient is then put to bed in a quiet room, under the care of night nurses, who supply him with drink (tea or cold water), and keep a succession of wet cloths to his head during the night. In the morning, should the disease show no signs of yielding, twenty-four leeches are at once applied. During the course of the day, cold affusion is repeated at intervals of six hours, and if the bowels are not acted on, the purgative is repeated. If the symptoms are aggravated towards night, and the delirium becomes more violent, the leeches are repeated; but unless this is the case, another night

is allowed to elapse before the second application of leeches is had recourse to. Then, if there has been no sleep or signs of the disease yielding, the leeches are applied. As before stated, a third application may be necessary. The absence of any great amount of debility subsequent to the application of a large number of leeches was remarkable, and contrasted favorably with those severe cases which had been previously treated without the application of leeches.

The result of this practice is very striking, the mortality for the last three years till December, 1867, having been 1.1, or little more than 1 per cent.; and for the first seven months of the present year (1868) the mortality has been *nil*.

In the statistical statements of the Melbourne Hospital for the eleven years ending December, 1867, there were 278 cases of delirium tremens treated, the mortality being 37 cases, 13.3 per cent. Dr. M'Crea has no doubt these cases were all severe attacks. The mode of treatment is not stated.

Dr. M'Crea asks that the application of leeches, in such cases as require them, be not delayed beyond twenty-four hours after the commencement of the attack. The conditions to which the patients in the gaol were subjected were uniform in all modes of treatment—viz: perfect quiet, diet; for the first twenty-four hours, arrowroot and tea; afterwards, beef-tea, bread and tea; cold water for drink; and lastly, an entire absence of stimulants.

ART. 21.—*On Organic Affections and Injuries of the Spinal Cord, producing some of the Symptoms of Spinal Hemiplegia.*

By C. E. BROWN-SÉQUARD, M.D., F.R.S., Fellow of the Royal College of Physicians of London, Member of the National Academy of Sciences (U. S.), &c.

(*The Lancet*, May 22.)

In a case of evident disease of, or injury to, the spinal cord, if we find several, or even only one, of the following symptoms, we can, says Dr. Brown-Séquard, positively conclude that the lesion is located in one of the lateral halves of the spinal cord, and, still more, we can surely know in which of these halves it exists.

1st. A paralysis of voluntary movements limited to one of the lateral halves of the body, shows also that the lesion is in the corresponding half of the spinal cord.

2nd. A paralysis of the muscular sense in one only of the lateral halves of the body, shows also that the lesion is in the corresponding half of the spinal cord.

3d. A paralysis of the vaso-motor nerves, chiefly evidenced by an elevation of temperature in one of the lateral halves of the body, equally shows that the lesion is in the corresponding half of the spinal cord.

4th. Hyperæsthesia—*i. e.*, an increased power of feeling and not pain—in one of the lateral halves of the body, clearly indicates also that the lesion is in the corresponding half of the spinal cord.

5th. The various local and facial symptoms, which we know as effects of the paralysis of the cervical sympathetic nerve—*i. e.*, vascular dilatation, elevation of temperature, hyperæsthesia, partial closure of the eyelids, constriction of the pupil, &c.,—in one of the lateral halves of the head and face, positively show also that the lesion is in the corresponding half of the spinal cord.

6th. Anæsthesia in one of the lateral halves of the body leaves no doubt that the lesion is in the opposite half of the spinal cord.

The facts Dr. Brown-Séquard has brought forward, and the deductions he has drawn from them, give, he writes, a strong foundation to the two following propositions, relating also to cases in which it is known that an injury or a disease exists in the spinal cord.

1st. When a paralysis exists in both sides of the body, in a greater degree, however, in one than in the other, the lesion is in both sides of the spinal cord, but chiefly in the side corresponding to that of the greater degree of paralysis.

2d. When a complete or very marked anæsthesia exists in one of the lateral

halves of the body, with some diminution of sensibility, instead of hyperæsthesia, in the other half, the lesion exists chiefly in the lateral half of the spinal cord corresponding to the side of least anæsthesia, but it extends slightly to the other half of the spinal nervous centre.

Other features of organic affections or injuries in the cervical region of the spinal cord deserve notice; these peculiarities are—1st, that a lesion in the upper part of the cervical region of the spinal cord, can produce anæsthesia in the lower, or the upper limbs, according to its location, and that, consequently, the conductors of sensitive impressions, for the lower extremities do not pass through the same part of the spinal nervous centre as those of the upper extremities; 2dly, that a lesion in the upper part of the cervical region of the spinal marrow can produce paralysis of voluntary movement in the lower limbs alone, or in the upper limbs alone; and that consequently the conductors serving to that kind of movement for the upper extremities do not pass through the same part of that nervous centre as those going to the lower extremities.

Art. 22.—*On Going to Sleep.*

By Charles H. Moore, F.R.C.S., Surgeon to the Middlesex Hospital.

In his highly interesting and valuable *brochure* "On going to Sleep," Mr. Moore writes: "The mechanism of sleep appears to act thus upon the brain. Wakefulness opens the arteries, superseding the influence of the ganglia over them. If intense and prolonged, wakefulness perhaps exhausts the ganglia, but certainly leads to a loss of tone in the cerebral arteries, which throb and are distended beyond the power of contraction, though the brain be weary. No exercise of the brain therefore can put it to sleep. But subsidence of its powers to a degree short of extinction gives occasion to the exercise of another power, which is withheld during the energy of the brain from producing sleep. The first power, that of the brain, overwhelms the less, which is that of the ganglion. Let the first moderate, the influence of the second rises. It is not necessary to conceive this latter as more than an automatic action, a resumption by the ganglion of its natural energy, which is forthwith expended upon the muscle with which it is connected. Be the brain therefore weary, or bewildered out of its attention, or soothed by a monotonous sound, or simply unoccupied, straightway the ganglia, set free for separate action, usurp supremacy, not over the brain, but over the arteries. The exact proportion of activity between the brain and the cervical ganglia which is requisite for setting the latter free is a matter of degree only, and is from the nature of the case undefinable, and possibly variable. But this indefiniteness, in fact, characterizes the subject. It is intelligible only as an exquisite balancing of uncertain forces, and too absolute a mind misses the fact of their relation in the shifting and vagueness of it. They sleep soonest who sleep the least. But with those to whom thinking is a necessity or a delight, how delicately poised sometimes is the alternative of sleeping and waking! The power seems to oscillate between mental willingness to withdraw from thought and some unknown faculty which we can neither localize, nor feel, nor woo, and the accession of which to its desired supremacy waits only for an instant when we give up the attempt to command it, the effort to yield to it, the feeling even to long for it: for all such occupation of mind, as it keeps the brain active, withholds from the bloodvessels their ganglionic stimulus to contract. But at any moment when the attention of the brain is unconcentrated, instantly the ganglia become uncontrolled and primary nervous centres, and reduce the size of the arteries.

It may sometimes be that the arteries do not wholly contract at once, and that, indeed, usually the supervention of deepest sleep is not sudden. It is, doubtless, always so far gradual as to be due to the most thorough contraction of the arteries. Occasionally, the brain, while moderating its own activity, but still alive to any sensory discomfort, may be again aroused, and again supersede the ganglia. Thus, while sleep is doubtfully coming and going, there may be variations in the size of the arteries, corresponding with the alternate depar-

tures and returns of consciousness. But all lessening of the blood-stream tends to reduce the capability of the brain for action, and gives an advantage to the ganglia which increases until the arteries are duly shrunken, and the sleep is complete.

The mystery of going to sleep accordingly consists in the fact, that sleep obliterates the very faculties by which alone we might discover its nature. In the present state of existence we know ourselves through the body, and so long as we are possessed of the sensations and consciousness due to the body we are not asleep. During any temporary extinction of those faculties, all knowledge is interrupted, including even the manner of the interruption, since the faculties are abolished by a mechanism through which we neither feel nor think. The structures fulfilling this function even dispossess the will, acting themselves involuntarily whilst depriving the brain of its function. And they act imperceptibly, both because they are themselves devoid of prompt feeling, and also because in their action they abolish that sense through which we could be made aware of the action. Such power, and still more that of annulling our consciousness in respect to thought, are surprising enough; but yet more so perhaps is the want of any direct relation between the mechanism which produces sleep and the influences which disturb it. The arteries being outside the brain, and the ganglia which rule them being in the neck, both are wholly indifferent to impressions which may be made on the organs of sense. Light and sound, for instance, reach only their appropriate organs, and do not affect cervical ganglia, or the arteries which keep the brain asleep. Hence it is that sleep, when profound, sometimes persists through great external disturbances, the mechanism of sleep being neither of a nature nor in a position to be in the least degree influenced by them."

ART. 23.—*Progressive Muscular Atrophy, with Complete Paralysis of the Extremities; Cure by means of the Continuous Current.*

By Dr. NESEMANN, Magdeburg.

(*Berl. Klin. Wochenschr.* v. 37, 1868; *Schmidt's Jahrb.*, I., 33, 1869; and *British and Foreign Med.-Chir. Review*, April.)

A workman, aged nineteen, some months after a normal attack of measles, from which he had perfectly recovered, complained of a weakness in the arms. In three weeks this had increased to absolute paralysis, and in the fourth week he had also paresis of the legs.

On admission into hospital there was found great emaciation of the whole body, caused by atrophy of the muscles, the wasting being especially noticeable in the muscles of the hands, and, most of all, in those of the balls of the thumbs, and in the deltoids. Voluntary movement was totally lost in the arms, but the hands were not bird-claw like. In the legs there was only paresis, the extensor muscles being most affected. Faradaic contractility of the muscles was everywhere diminished, and was in direct proportion to their remaining volume and degree of voluntary power. Cutaneous and muscular sensibility were normal, as also were the functions of the cerebral nerves, the bladder, and the rectum.

The diagnosis of progressive muscular atrophy was confirmed by "*harpooning*" the deltoid muscles.

During the next two months the disease made rapid progress, and as the paralysis advanced atrophy increased, and faradaic contractility diminished; but respiration, appetite, digestion, and sleep remained unaffected. During this time faradization was used to the muscles individually.

Three months after the patient's admission the treatment by galvanism was begun, and the cervical sympathetic was daily galvanized for ten minutes. Slight improvement was noticed after only a week's treatment. Motor power increased in the legs first; but it was not till six months after the commencement of galvanization that the patient could walk even imperfectly. It was nine months before he could use his arms at all; but after a year the improve-

ment was rapid. The muscles grew in bulk simultaneously with their gain in power. Galvanization was discontinued at the end of sixteen months, but improvement continued, and two months later the patient was perfectly well. On his discharge from the hospital a fragment of muscle was again *harpooned* out of the deltoid. The transverse series of the muscular fibres were well and clearly marked, but here and there some minute oil-globules were seen between, and in otherwise normal fibres. Then, as six months previously, the nerve fibres, visible in the several preparations, appeared to be perfectly normal.

Art. 24.—*Treatment of Chorea.*

By Samuel Wilks, M.D., Physician to, and Lecturer on the Practice of Medicine at, Guy's Hospital.

(*Medical Times and Gazette*, February 6, 1869.)

Many years ago, seeing that every medicine in the Pharmacopœia as well as several others out of it, were said to be equal to the cure of chorea, Dr. Wilks determined to watch the disease untrammelled by medicines, and he found that in many cases a speedy recovery took place without the administration of any medicine whatever. The cases which did best were the severe ones, excepting always those which were of the most violent and acute description. The first case which he watched was a little girl who had severe chorea; she was too bad to be able stand, and was obliged to have sideboards to her bed to prevent her wriggling out of it. This child began to improve in a day or two, and went out well in a month. This is only one example of several of the same kind. Dr. Wilks takes it that the patient, being subject to constant excitement or improper treatment at her own home, has her disease there perpetuated, whereas when brought to the hospital, being under the influence of strangers who endeavor to make her suppress the movements, and by the additional advantage of good living, she begins to recover. He should say that a weakened condition of the nervous centres being at the root of the malady, good nourishment and the tonic plan are necessary. After having learned the fact that the tendency of the disease is towards recovery as soon as all the circumstances which formerly surrounded the patient were removed, Dr. Wilks soon afterwards learned that the cure is expedited by tonic medicines of the mineral kind, and this is the experience of the majority of the profession. Dr. Wilks does not believe that iron or zinc act in any specific manner; they are useful, but operate as nervine tonics. Dr. Elliotson many years ago acquired great fame by his success in the treatment of chorea, his remedy being the red oxide of iron. It is given, and it is one of the best of remedies; children very willingly take half drachm doses in treacle. Probably an equally favorite remedy is the zinc—in fact, it is the medicine most commonly given, beginning with grain doses, and increasing to any amount, as a scruple three times daily. A favorite remedy of Dr. Wilks's late colleague, Dr. Hughes, was rhubarb steeped in port wine; the children were thus well kept up at the same time that the stomach and bowels were improved in condition.

In very chronic cases, and those where a part of the body only is affected, medicines are of little use. In some of these electricity has been sometimes curative; in some cases shower-baths have acted with the best success. One writer has advocated the use of liniments, as of chloroform, to the spine. Often nothing less than a thorough change of scene will suffice to break the habit. If this opportunity do not occur, gymnastic exercises are of use. They not only strengthen the muscles and nerves, but they break the bad habit; they convert, in fact, an irregular movement into a regular one. If the arms are constantly moving, and are then employed in grasping a beam for swinging, a new and altered condition of the whole machinery accrues, and in time the habitual irregular actions are worn out.

Art. 25.—*Progressive Muscular Atrophy.*

By Samuel Wilks, M.D.

(*Medical Times and Gazette*, December 5, 1868.)

This is a paralysis in which the muscle itself wastes. Clinically, the case is a clear one; the muscles waste, and thus a form of paralysis is produced of a very striking kind. The disease appears to commence in the upper extremities, and is often confined to them, commencing in one arm or a part of the arm. Thus most frequently our patients walk into the hospital and present little amiss with them at first sight, but you then observe their drooping shoulders, and their arms hanging at their sides as if they did not belong to them. On stripping the patient you see his remarkable condition—not a mere thinness or ordinary wasting from the absorption of fat, but the muscle itself has degenerated; you see the acromion projecting and the deltoid flat, the trapezius wasted and the head falling forward. The biceps in the same manner is wasted, as well as the muscles of the forearm and hand; it is in the latter that you generally at once recognize the disease. The muscles of the thumb or hypothenar eminences have disappeared, and owing to the shrinking of the interossei, there are deep furrows between the metacarpal bones. As a consequence, the fingers become drawn back until the hand puts on the appearance of the talons of a bird of prey, and thus the French have given it the name of *main en griffe*, or griffin's claw. The forearm in like manner has lost its roundness and become flattened. The whole appearance of the patient is most striking; he stands with his head bent forwards, or even in bad cases with his chin resting on his breast; his arms hang down in front of him as if they were merely attached to him by strings or ligaments. His chest does not expand freely, and his abdomen is loose and projects. If his legs have become affected, they have lost their roundness, and the muscles of the face may at last have become involved, so that the patient presents an idiotic expression, and dribbles from the mouth. Finally, the chest may become more affected, then the laryngeal muscles; the vital process of respiration is attacked, the voice is lost, the mucus collects in the tubes, expectoration fails, and death ends the scene.

It is remarkable that just as in the locomotor ataxy the disease is more especially confined to the lower end of the cord, and as a consequence the legs may be solely affected, so in the progressive muscular atrophy it is the arms which are primarily and principally paralyzed. In the early cases you will have carefully to test what muscles, and to what degree they are affected, and you will find that the paralysis does not follow the distribution of any particular nerve. As you are treating your patient, you test the increase of power by making him raise his arm, then place it before him, see how far he can stretch it behind him, and then test the extension, flexion, and pronation of the forearm, &c. You may sometimes remark, as Cruveilhier pointed out, a remarkable tremor or quivering of the muscles, especially the trapezius, when you attentively watch it; or you may bring the movement out by gently tapping the surface.

The following is Dr. Wilks remarks, one of the most remarkable examples of recovery from a malady apparently incurable that he has ever witnessed, and one of the worst cases of progressive muscular atrophy that have ever been cured, for it is simply impossible that the disease could have existed in apy more severe degree than was here present.

"A girl, aged twenty-four, was sent to the hospital on July 4, 1866, by my friend Dr. Buzzard. She lived in the country, and owing to a number of circumstances connected with family affairs she began to fail in health about eighteen months before her admission. A weakness and wasting began in her arms, and then in other parts of the body, until in six months' time she was obliged to take to her bed. During the year she kept her bed she passed her motions involuntarily, and was in a perfectly helpless condition; menstruation had altogether ceased. On admission she was seen to be in the most pitiable con-

dition that you can well imagine—she was so emaciated that she was little better than a skeleton. She lay on her back scarcely able to move or raise her arms from her side. Her fingers were contracted into the griffin's-claw shape. The interossei seemed to have quite disappeared, so that the tips of one's fingers could be felt between the metacarpal bones. The radius and ulna showed their complete outline throughout. In same manner were the legs wasted, and the abdomen so flat that the spine could be clearly felt. In fact, all the muscles were so atrophied that I believed that they must have disappeared, a little fibre tissue remaining in their place. She had a slight blue line on the gums, which suggested poisoning by lead, and therefore Dr. Buzzard took the trouble to visit her home in order to see if she could have been poisoned unwittingly by this metal, but he failed altogether in proving it. She was, however, ordered some iodide of potassium and faradization to the arms and legs. The galvanism produced no effect on the extensor muscles, and only a slight one on the flexors. It was, however, rigidly followed up by Mr. Branford Edwards and my other clerks, and to these gentlemen she owes her restoration to health. In two months' time it was very evident that she was better; she could move her limbs, and the muscles had grown visible. In another month she could use a fork, and was able to write a little. In November she was able to get up and walk across the ward by means of a chair, and the catamenia had returned. She continued the faradization, and the cure progressed more quickly until January, when she left the hospital convalescent. It was three or four months after this that she called on me to show herself. I did not recognize her at first, as she was a ruddy plump girl, and said she was in good health."

The cause of the disease and its pathology, Dr. Wilks writes, are very obscure. Some have considered that it was due to injury, others to cold or placing the hands in cold water. Those who trace its origin to disease of the medulla would look to causes operating on the centre, and thus, in two cases described by Dr. Gull, there was a distinct history of an injury to the spine. What we find on examination is an atrophy of the muscles. The tissue is withered, the sarcous element gone, the markings have disappeared, and granules taken their place. Some of these may be composed of fat, but the change in the muscle is not a simple fatty degeneration. Cruveilhier thought that this was the essence of the disease, and, as a consequence, the nerves supplying the muscles wasted; the atrophy being most apparent in the anterior roots as they enter the spinal cord. He found no disease of the cord itself. Virchow, however, observed in one case that the medulla was pervaded by a gray translucent substance. In the one described by Dr. Gull there was disease in the cord, and in that just mentioned lately under my own care the change in both the white and gray portions was most marked. Dr. Lockhart Clarke's researches have quite confirmed the view of progressive muscular atrophy being a central disease.

We have, then, three theories for the disease: the one that it has originated in the spinal cord, another that the anterior roots of the nerves are in some way primarily affected, and a third, the theory which until quite lately has generally been received, that the disease commences in the muscles themselves. Those who hold the last opinion would not, Dr. Wilks believes, deny that the cause might be so far nervous that the wasting of the muscle is due to a failure of nutrition, and that this might be brought about by a change in the bloodvessels, influenced by the vasomotor nerves, but they would still maintain that the disease is peripheral and not central. This width of opinion ought of course to be granted in all cases where a change of tissue is spoken of, unless a special element has been actually found to be primarily affected.

An argument formerly used against the supposed spinal origin of the affection, that there is no necessary atrophy in hemiplegia or the paraplegia of spine disease, is no longer of weight, since it is believed that the nerves are compound, and that the filaments of which they are composed originate in the different functional spheres of the cord or brain, and consequently that morbid changes in particular portions of the centres would only cause paralysis of some of the nerve-fibres—that although a destruction of the whole trunk would necessitate

a paralysis of every function which it possessed, yet that a disease in one part of the cord where certain fibres originated would destroy only one function, and disease in another part some other function. Thus, in disease of the brain producing hemiplegia, motion and sensation may be lost, but nutrition remains, and the same may be seen in many forms of paraplegia arising from disease in the medulla; but in the present case it would be naturally surmised that the nerves of nutrition were attacked. It has not yet, however, been positively shown whether this nutritive element of a nerve is derived direct from the cord or merely from the sympathetic, which joins the spinal nerve. If from the latter, we might suppose a disease of the cord and of anterior roots to be the prime mischief. But experiments seem to prove that the integrity of a nerve is due to the healthy state of the ganglion on the posterior root, and thus a disease situated therein might explain the pathology of muscular atrophy. Dr. Wilks believes he is right in saying that this is Lockhart Clarke's suggestion. At the same time, this fact must be borne in mind—that injury to the nerve which excites the muscle to action not only paralyzes the muscle, but occasions its atrophy.

ART. 26.—*Lead Paralysis.*

By SAMUEL WILKS, M.D.

(*Medical Times and Gazette*, December 5, 1868.)

This disease, Dr. Wilks writes, so exactly resembles that just described that it is very often impossible to distinguish between them. If the metal has been thoroughly implanted in the system, a fatal result may ensue. All the tissues of the body degenerate, the skin assumes a remarkably waxen appearance, the nerve centres more especially suffer, and the patient becomes at last paralyzed both in body and mind. A mania or dementia may result, accompanied by epileptic fits. In a less degree the effects are constantly seen, as in the drooped wrist of the painter, followed by a paralysis of the whole arm, in which the muscles waste just as in the disease described. Dr. Wilks has more than once seen a patient admitted and treated for progressive muscular atrophy, in whom there has been a lead line on the gums and a good history of plumbism. It might be thought that so analogous a result might elucidate the pathology of the idiopathic muscular atrophy; but as yet it proves no more than that nutrition is affected through the influence of the sympathetic nerves on the blood-vessels. Lead, as you know, is given to arrest hemorrhage, and acts by constringing the vessels. You can therefore see how its overaction or its continued action would produce an atrophy of its tissues. Duchenne states in his work that we have one means by which we can distinguish between lead palsy and the idiopathic atrophy. In the latter the most remarkable wasting is seen in the interossei and other muscles of the hand, so that the claw shape is produced. In lead palsy the effect is most marked on the extensor longus digitorum, and as this muscle, when healthy and excited by faradization, is stated by Duchenne to act only on the first phalanges, and has no influence on the second and third digits, it consequently follows that if this muscle is paralyzed, as in plumbism, and the arm and wrist be supported on a table, the fingers can still be extended or raised, which cannot occur in the progressive muscular atrophy when the interossei and lumbricales are affected.

ART. 27.—*Mercurial Paralysis.*

By SAMUEL WILKS, M.D.

(*Medical Times and Gazette*, December 5, 1868.)

Dr. Wilks next alludes to mercury, as its poisonous effects have occasionally been referred to spontaneous causes, and because, in a complete saturation of the system, the nervous centres seem to be most strikingly affected. Formerly the effects of mercurial vapor were constantly seen in looking-glass makers and water gilders, who exhibited the well-known mercurial tremor, and these same

persons, if they persisted in the employment, became at last quite shattered in health. Such instances are at the present time by no means numerous. Dr. Wilks has seen, however, within the last few years, two cases showing in a much more striking manner the destructive nature of mercury, but in neither case were they due to the inhalation of the metallic fumes as formerly witnessed.

The first case was that of a man admitted into Guy's Hospital for a form of general paralysis from which he was suffering. It was discovered that he had been in the habit of packing the skins of animals, and that these had been washed with an acid solution of mercury. For three years he had been employed thus, when he began to experience a general muscular weakness. He could scarcely walk, and, when attempting to do so, it produced a general tremulousness over the whole body. When lying down, he had spasmodic movements of the chest and of the muscles of the body, resembling those of chorea. He gradually became more feeble, delirious at times, and he afterwards fell into a state of unconsciousness. The post-mortem examination showed no evident disease of any of the organs, but a chemical analysis by Dr. Taylor proved the existence of mercury in many of the tissues of the body.

A more marked case than even this of the destructive effects of mercury on the body Dr. Wilks had an opportunity of seeing in St. Bartholomew's Hospital. A young man had been engaged in the laboratory in the preparation of mercurial methide for about three months, when he began to complain of dimness of sight, numbness of the hands, and general weakness. These symptoms increased, until at last he was obliged to be sent to bed. When Dr. Wilks saw him he was almost completely paralyzed; he was lying prostrate in bed, perfectly helpless, being scarcely able to move either his arm or legs, and there was paralysis of the bladder. He could not speak, and was quite deaf. The heart's action was quick and feeble. The mouth was not sore, but the gums had been at one time spongy, when there was also fetor. He got weaker and weaker, and died in about a fortnight.

Another young man employed in the manufacture of the same article was also similarly affected, the symptoms being those of a complete paralysis of body and mind. He lost all feeling, all power of motion, became deaf, unable to speak, and quite idiotic.

Art. 28.—*Treatment of Diseases of the Nervous System.*

By Samuel Wilks, M.D., Physician to, and Lecturer on the Practice of Medicine at, Guy's Hospital.

(*Medical Times and Gazette*, April 10, 1868.)

The remedies for nervous diseases are mostly of two kinds. There are those which act directly on the nervous system, and are hoped to cure either by setting up a counter-action, or by producing a temporary soothing effect until time works the result, and there are those which are styled the nervine tonics, consisting mostly of the metals.

Amongst the former there are few which Dr. Wilkes believes can be regarded as valuable remedies in diseases of the nervous system. Thus *opium*, which by its indirect influence on nutritive processes, is one of the most valuable remedies in the Pharmacopœia, is all but powerless in such diseases as mania, chorea, tetanus, and convulsions of all kinds. An all but poisonous dose may arrest the symptoms for a time, but only for them to recur with the same violence as before. *Belladonna*, again, may, through the nerves, control the disordered action of a particular part, but the author thinks very little can be said favorable to its influence over diseases of the brain and spinal cord; he excepts a few cases where epilepsy has been apparently relieved by it. So with *conium* and *henbane*, remedies which are useful in complaints of other organs than the brain. Dr. Wilks would say the same of *strychnia*, a medicine the effects of which are slight, considering the extent to which it is administered. Its general effects on the nervous system are as disappointing as its direct effects on the stomach are encouraging, for he regards it as one of our best tonics in some forms of dyspepsia. The same may be said of *aconite;* it is a drug which,

acting powerfully on the nervous system, influences nutritive processes in various parts, but its direct operation on the centres to alter their morbid states appears to be very slight indeed.

Chloroform, which, as a temporary remedy, produces such a wonderful stillness of the nervous system, produces no permanent effect. Dr. Wilks can say little more of *cannabis indica*, *camphor*, *physostigma*, *prussic acid*, and such like medicines, which have such a powerful physiological effect on the nervous system; in the treatment of disease they could not be exchanged for the more simple drugs, as nitrate of potash or sulphate of magnesia.

Remedies which act indirectly, it may be, upon the bloodvessels of the centres, such as the metals, have contributed more than any other means to the cure of nervous disorders. Foremost stands *iron*, and then *zinc*; *silver* has been found useful in some cases, and in not a few *arsenic*. The most striking effects are seen in neuralgia, where iron and arsenic are often found to produce a cure without any possibility of doubt. In this class of affections arsenic is one of the most important medicines which we possess; it is difficult to foretell a cure, but in tic of face, sciatica, pleurodynia, gastralgia, and other nervous affections its beneficial effect is often most marked. There is again *quinine*, which has cured more nervous disorders than all the physiological remedies combined.

In speaking of the method of introducing medicine by the skin—the hypodermic method, Dr. Wilkes says the advantages are that it acts speedily, and does not injuriously affect the system as when taken by the mouth. He has seen a gentleman who suffered agonies with spine disease take morphia in the usual way, and it produced sickness, parched mouth, and other unpleasant symptoms, and at the same time long before the system responded to its influence; but when injected through the skin it speedily soothed the system, relieved the local pain, and no unpleasant consequence resulted.

Then, again, amongst the remedies for local nervous affections we have local remedies, and these are of various kinds. There is the class of soothing medicines already named, made into the form of liniments, ointments, &c. These are sometimes useful, but often less efficacious than applications of an altogether different kind, as blisters and hot applications. There are many instances where a blister is efficacious after every soothing remedy has failed, and as regards hot applications, Dr. Wilks states he cannot speak too highly. Besides the heat, stimulating lotions are highly efficacious, as the tincture of capsicum or mustard. Amongst popular remedies is the tinctura arnicæ. Dr. Wilks cannot say that his experience of it has been large, but has seen enough of it not to ignore it, but considers it to be sometimes a useful remedy. In one case of a patient who had a violent neuralgic pain following shingles, arnica was used, and the patient soon got relief, but at the same time an eruption came out, which is very usual after the use of this drug. The lotion was then discontinued, the eruption faded, and the pain returned. In this case it seemed to act as a counter-irritant.

Just as hot applications are useful in many painful affections of the nerves, so is the cold douche in some paralytic conditions. The author has seen cases of writers' cramp and such like maladies much benefited by allowing a stream of cold water to run upon the weakened limb.

In speaking of galvanism, Dr. Wilks says some of the cures at Guy's Hospital have been most remarkable. Its value has been greatest where faradization had previously failed. Thus in lead paralysis, where very little result had previously been seen by the induced current, a more marked effect was here obtained. There are different kinds of paralysis in which the induced current and the constant current respectively their curative effects; but much yet has to be learned as to the further application of the remedies. It is beginning to be used in painful affections of the nerves and muscles, as neuralgia and myalgia. Cases have been reported of its efficacy in sciatia, and as regards the muscular painful affections in hysterical women its value Dr. Wilks has seen. Even the pains attendant on organic disease of the spinal cord are relieved by the application of the continuous current. Much care is required in its management, for, if galvanism is a useful agent, we may suppose it also to be injurious if wrongly

applied. In the experiments on frogs and other animals, if a current pass down a motor nerve, the function is increased, but an opposite effect produced if the poles be reversed. Whilst the current passes downwards the hind legs are moved; if the poles are reversed, the front legs are moved, and the animal at the same time cries out.

It has already been put into use to stimulate the uterus; also the bowels in constipation, also in aneurism to produce coagulation of the blood.

Art. 29.—*Pathogenesis of Epilepsy.*

By C. E. Brown-Séquard, M.D., F.R.S.

(*British Medical Journal*, February 6.)

Dr. Brown-Séquard has communicated to the French Academy the results of new researches which he has made upon animals in order to study the effects of lesions of the spinal cord. Carrying further his well-known experiments of cutting one of the lateral columns of the spinal cord near the tenth dorsal vertebra, he has ascertained that epileptiform attacks may be induced in guinea-pigs, not only by this means, but also by the section of the cord higher up and nearer the bulb. He has also seen the attacks occur after a double section in the muscles innervated by the segment of the cord comprised between the two sections. Thus it would seem that the greater part of the cord takes an active part in the production of the convulsions. The brain seems to take no part in them. He has removed the brain, cerebellum, and pons from these epileptic guinea-pigs, maintaining life by artificial respiration. The epileptic attacks have continued, in spite of the removal of the encephalon. In the course of the discussion, M. Colin threw doubt upon the truly epileptic character of these attacks. Dr. Brown-Séquard said he had only once been able to produce epilepsy by unilateral division of the cord in any other animal than a guinea-pig; this was in a cat. The attacks produced in the guinea-pig were truly epileptic; and the epilepsy so produced was hereditarily transmitted. M. Hardy said that clinical observation in the human subject showed that compression or injury of the brain, traumatic or by tumor, especially the posterior part, did produce epileptiform symptoms; while injuries of the spinal cord did not. There was a complete discordance between these clinical observations and the results of Dr. Brown-Séquard's experiments. Dr. Brown-Séquard said that, after analyzing hundreds of cases of cerebral lesion, he was convinced that diseases of the cerebral substance were incapable of producing epileptic symptoms; and that, when these occurred in the course of encephalic disease, he was disposed to attribute them to concomitant lesions of the meninges. M. Ricord confirmed the experience of M. Hardy.

Art. 30.—*On the Treatment of "Epileptiform" Neuralgia in its Earlier Stages.*

By Francis E. Anstie, M.D., F.R.C.P., Senior Assistant-Physician to the Westminster Hospital.

(*The Lancet*, January 9.)

The following is the treatment recommended by Dr. Anstie: 1. Counter-irritation of a peculiar kind. 2. Nutritive tonics. 3. Subcutaneous injection of morphia, or of atropia, according to circumstances.

1. Counter-irritation, Dr. Anstie writes, to be useful in epileptiform facial tic, should not be applied to the branches of the fifth, but to those of the occipital nerve, at the nape of the neck. A blister in the former situation is as often hurtful as useful: in the latter, it is sometimes strikingly effective in gaining a short respite. And this is of very great consequence in this awful disease; for the mere fact of such pain being allowed to continue is itself of the worst possible omen. 2. The assiduous use of cod-liver oil, or of some fatty

substitute for it, should be insisted on from the first, and is of the highest consequence. 3. Subcutaneous injection places us in a totally different position towards the use of opium in spasmodic tic. There is no longer any excuse for the use of enormous doses of opium from the first. In will be sufficient to commence with the use of one-sixth of a grain of morphia twice daily, increasing this, if necessary, to one-fourth and one-half a grain; and, in rare cases, to one grain. If this produces, along with the other measures, a notable remission of the pain, it should be cautiously and steadily decreased, as circumstances may admit. In cases where morphia fails, atropia may be tried, in doses commencing at one-sixtieth of a grain. The injection of a less quantity than this would probably be useless in severe tic.

Art. 31.—*Treatment of Epilepsy.*

By C. E. Brown-Séquard, M.D., F.R.S.

(*Diagnosis and Treatment of Functional Nervous Affections*, 1868.)

Dr. Brown-Séquard states that his usual prescription for epilepsy is as follows:—

Iodide of potassium, one drachm.
Bromide of potassium, one ounce.
Bromide of ammonium, two drachms and a half.
Bicarbonate of potash, two scruples.
Infusion of calumba, six fluidounces. Mix.

A teaspoonful of the mixture to be taken before each of the three meals, and three teaspoonfuls at bedtime with a little water.

In syphilitic cases he increases the amount of iodide of potassium. In administering the bromides it is necessary to give a relatively larger dose at bedtime, and smaller doses in the day if sleepiness is caused. The medicine should be pushed till anæsthesia of the fauces is produced, and an acne like eruption appears on the face, neck, and shoulders, &c. The bromides should be continued for fifteen or sixteen months after the attacks have ceased. An occasional purgative ought to be given, and if any debility be produced by the use of the bromides, wine and nourishing food should be used, with cod-liver oil, arsenic, strychina, &c.; and the cold douche or shower-bath employed.

Art. 32.—*Cases of Epilepsy, and Remarks upon their Treatment.*

Under the care of Dr. Beigel, of the Metropolitan Free Hospital.

(*Medical Times and Gazette*, February 13.)

We are indebted to Dr. Hermann Beigel for the following valuable report upon the treatment pursued by him in cases of epilepsy:—

"My theory concerning epilepsy is as follows: From the results of former experiments it has been shown that depletion of the cerebrum and the medulla produces general epileptiform fits. But these experiments have not proved that similar results may ensue when such depletion takes place in a limited district—for instance, a group of muscles, or even one single muscle. Depletion gives rise at once to a change of nutrition in the nerves supplying such muscles, and consequently the muscle itself becomes irritated as if by electricity or other irritant. There is good ground for believing that in epilepsy the vaso-motor nerves are the parts primarily affected, in consequence of which the muscular layers of the vessels become contracted. This may be more or less complete, and may be general or partial, according to the nature of the primary irritation of the vaso-motor nerve. If the contraction of the vessels is general—that is to say, if the nervous centres are implicated—the question of its intensity arises. If it be extreme, loss of consciousness sets in; if not, convulsions may occur without loss of consciousness, or neither loss of consciousness nor convulsions occurring, the fit consisting merely of giddiness, impaired vision,

and other more or less obscure symptoms, a prominent part of which is constantly impaired circulation through the capillary system. The action of the heart generally remains more or less normal. If the vaso-motor nerves of a limited district be irritated, then, of course, a similarly limited group of muscles will be affected, and perform contractions—a process which must be considered as epilepsy of these muscles. This is a matter of great practical importance, inasmuch as experience teaches us that these forms of limited epilepsy may at any time become general if the patient indulges in any excess of food, &c., and that, on the other hand, general epilepsy, under proper treatment, may be converted into these slight local convulsions, which sometimes produce comparatively little inconvenience to the patient.

"These facts are borne out by the results of experience on which we cannot dwell here, and by the mode in which epilepsy in the largest number of cases is acquired, and by the results obtained by treatment, or, as the old physicians used to express it, *ex juvantibus et nocentibus.*

"It is a well-known fact that the larger number of cases of epilepsy—at all events a very large number of cases—are acquired by strong emotions or mental affections, particularly such as act suddenly and intensely—sudden shock. Now, this admits no other explanation than that of sudden change of nutrition in the nervous spheres, and further observations lead us to believe that the vaso-motor nerve is the sphere primarily so affected.

"Concerning treatment, we are all aware that amongst the large number of remedies, such only have any visible effect as belong to the class of nervines. According to my experience, which extends over several hundred cases, there are only two remedies which render good, and even very good service, in the treatment of epilepsy—namely, large doses of bromide of potassium, and morphia if used hypodermically. I have tried nearly all drugs recommended by the authors on epilepsy, but failed to see any result worthy of notice. But bromide of potassium has doubtless the power of delaying the attacks, so that a patient who has previously had perhaps several fits in one week, has one every few months—a delay which remains stationary in many cases, even after the remedy has been left off, provided it has been taken for a sufficiently long period. The same result is obtained by hypodermic injection of morphia, which acts much more rapidly and intensely. I use the bromide of potassium in children and in such adults as are ill-nourished, and employ hypodermic injections if no other complication exists with true idiopathic epilepsy."

To these remarks Dr. Beigel adds several cases, not, however, to show that the results of the treatment by bromide of potassium or hypodermic injection of morphia, or a combination of both, which, in some cases, may become necessary, will be the same in all instances, but to show that this kind of treatment is capable of producing very good results, if employed for sufficiently long periods, in cases suitable for the treatment. Of course, even when these conditions were fulfilled, Dr. Beigel has met with many cases which did not yield to the treatment. Yet he feels justified in saying that the treatment just mentioned is—at least according to his experience—much more satisfactory than other remedies, and that the number of patients who have been cured or improved is, as far as Dr. Beigel is able to gather from statistic records, considerably larger than that obtained by any other method of treatment.

(B) CONCERNING THE RESPIRATORY SYSTEM.

ART. 33.—*On Pneumonia.*

By HUGHES BENNETT, M.D.

(*The Lancet*, May 1.)

Dr. Bennett, in a paper on "Pneumonia," read at a meeting of the Medical Society of London on the 26th of April, commenced by condemning the existing mode of clinical and therapeutical observation of cases as insufficient, declaring that four things were necessary to a satisfactory observation; an accu-

rate diagnosis of the disease present, a thorough understanding of the pathological conditions, a careful marking of the progress of the cases under criticism, and fourthly, the preparation of a statistical chart embodying the treatment.

The author next stated that since the publication of his 129 cases of pneumonia, some years since, he had watched the progress of professional opinion, and the additional evidence that he had obtained, has only strengthened his views. He referred to the circumstance that his own cases included acute primary pneumonia, whereas other observers had not drawn a distinction between these and instances of secondary pneumonia. Dr. Bennett referred especially to some remarks of Dr. Sieveking, recently published, in which he sought to lay down, amongst others, the principle that pneumonia is different in type at different times; and he explained that varying degrees in strength, or various complications, might exist in cases; but this was no proof—though it might be taken as such—of change of type. Dr. Sieveking's facts were insufficient; and it would be well that Dr. Sieveking should base his observations on at least 100 properly recorded cases. Dr. Richardson's recent exposition of the value of bloodletting in disease was commented upon, Dr. Bennett objecting to the diagnosis of the ancients, which, being inaccurate, would introduce an element of uncertainty into the observation of the effect of remedies. The ancients, also, the author contended, believed that if symptoms were relieved, the disease was also relieved. There was indeed no confidence to be placed in these views and statements, from the fact that they did not understand the relationship of symptoms. Dr. Bennett claimed for the modern physician more than the power to arrest symptoms—to treat the disease on which the symptoms depended. In former times, when venesection was resorted to, 1 in 3 recovered, and the convalescence was regarded as evidence of successful treatment. Now, under the adoption of the "restorative plan," 1 in 27 or 30 only died, as shown by the details of large numbers of tabulated cases. He objected to that kind of medical writing in which plausibilities are supported by the narration of a few successful cases. Dr. Bennett concluded with the following axioms (briefly stated): That the great end of treatment was to remove the consolidation of the lung, and to restore the organ to its normal state. 2. All that diminishes the vital strength should be avoided. 3. There is no relation between the violence of the symptoms and the fatality of the disease, though the young are attacked most. 4. A weak pulse, or want of reaction, the non-disappearance of the solidification, flagging heart action, &c., were bad symptoms. 5. Low diet, too much or too early exercise, the use of purgatives, expectorants, and other lowering measures in convalescence, are bad. 6. In double pneumonia, with such special symptoms as severe dyspnœa, small bloodlettings might be used with advantage. 7. Local pain should be relieved by large poultices. 8. The true disease was hepatization; this was removed by the transformation of the solid material into pus, its liquefaction, its part absorption into the blood, and its evacuation through the excretory organs. 9. These events were favored by the restorative plan, and diuretics during the progress of disease. 10. The same pathological considerations and contingent treatment should be had regard to in all cases, complications being met by special means. Altogether, Dr. Bennett had observed in his own wards 153 cases; of these 129 were simple, and 24 complicated, cases (at least this is what we understood): of the 129 cases, all recovered; of the 24, five died. That is, out of the total, 1 in $30\frac{1}{5}$ died; in simple cases the amount was *nil*.

ART. 34.—*Thermometric Observations on Pneumonia.*

By THOMAS WRIGLEY GRIMSHAW, A.B., M.D., Lecturer on Materia Medica in Steevens' Hospital.

(*Dublin Quarterly Journal of Medical Science*, May.)

The following are the conclusions at which Dr. Grimshaw has arrived:—

1st. Pneumonia has (when uncomplicated) a tolerably definite range of temperature.

2d. The highest temperature attained is usually between 103° and 104° Fahr.

3d. The maximum temperature is usually attained on the third, fourth, or fifth day, after which the temperature falls and reaches the normal on the sixth or seventh day.

4th. The height of the thermometer does not necessarily indicate the intensity of the disease.

5th. The fall of temperature does not indicate the cessation of mischief, but only that the disease is about to enter on the third stage.

6th. If a high temperature is maintained for a long time (more than three or four days), or a fresh rise takes place, it indicates a fresh attack in a previously healthy part, or the advent of a complication.

7th. The temperature and pulse usually, though not always, rise and fall together.

8th. The temperature usually decreases before the frequency of the respirations diminish.

9th. A high temperature before the 6th day in a doubtful case generally indicates it to be one of pneumonia and *not* of typhus.

Art. 35.—*Sulphur in the Treatment of Croup.*

(*The Lancet*, January 16.)

The use of the perchloride of iron and of the bromide of potassium has been much advocated of late in the treatment of croup and diphtheritic angina. The flour of sulphur, which had already been pointed out by different writers as an excellent remedy in similar cases, is now spoken of in most laudatory terms by a French writer, Dr. Feyreigne, of Toulouse, in whose hands it produced most wonderful effects. Dr. Feyreigne only records one case, but it was a peculiarly bad one. The patient, a little girl of four years, was in a dying condition, with intense diphtheritic angina, when the administration of the flour of sulphur brought her back to life. The dose employed was five grammes of sublimated sulphur to one glass of water; a teaspoonful of the mixture to be given every hour.

Art. 36.—*The Use of Chestnut-Leaves (Castanea visca) in Whooping Cough.*

By J. Ludlow, M.D.

(*Cincinnati Lancet and Observer*, and *Medical Press and Circular*, May 12.)

More than two years ago this remedy was brought to Dr. Ludlow's notice by Dr. Unziker, he telling him that in his hands it had never failed to *cure*, not *relieve* the spasm, and bring the disease to a speedy end. Dr. Ludlow therefore determined to give it a fair trial whenever opportunity offered, and in every case that he has treated since, he has invariably used it, and with the happiest results. He has found in all cases that it would in from five to ten days relieve the spasm, and in about two weeks cure it; and the little sufferer would whoop no more, but go on to a speedy recovery, to the great delight of himself and its friends.

Dr. Ludlow makes an infusion of the leaves, by taking one-half of an ounce of them to the pint of boiling water, and afterwards adds a pint of cold water, to which is added sufficient of white sugar to make it palatable to the patient, and give of this *cold* as much as he can get the patient to take during the day and evening. Giving it to drink in place of cold water, the child soon gets to like it, and the author has no trouble in getting a sufficient quantity taken to produce the desired result. This remedy Dr. Ludlow believes of such importance, that he would urge it upon the attention of the profession at large.

Art. 37.—*Sulphuret of Potash in Whooping Cough.*

By Dr. Mackelcan.

(*Dominion Medical Journal*, and *New York Medical Journal*, January.)

Dr. Mackelcan calls attention to this remedy. He was led to the use of it from a notice of it which he saw in a French medical journal forty years ago, and since that time his success has been so uniform that he has used no other remedy. He says:—

"The mode of administration I have adopted is to dissolve it in a mixture of syrup and distilled or rain water, in the proportion of one of the former to three parts of the latter (hard water, which sometimes contains sulphuric acid, partially decomposing it) the dose being one grain for each year up to four years of age, and after that half a grain additional for each year; the smaller doses being administered in a teaspoonful of fluid, and the larger more diluted, in proportion to the quantity of the salt in each dose.

"Its beneficial effects are not perceived for five days, when the intervals between the paroxysms of cough become longer, and after that their violence diminishes from day to day, until at the end of ten or fourteen days it is seldom necessary to pursue the treatment further.

"As the drug easily spoils by keeping, it is important to have it fresh. If it dissolves perfectly in the syrup and water, and the mixture is of a greenish color, it may be relied on; but if there is any sediment, it has been decomposed by exposure to air, and becomes a sulphate."

Art. 38.—*On the Treatment of Asthma by Belladonna.*

By Hyde Salter, M.D., F.R.S., Fellow of the Royal College of Physicians, Senior Physician to Charing Cross Hospital.

(*The Lancet*, January 30.)

For the last two years Dr. Salter has used this drug extensively, and is so satisfied with the results that he thinks it worth while to publish a few of his cases, in illustration of its value and of his method of employing it.

The peculiar excellence of belladonna as a sedative in asthma consists in its power of diminishing reflex irritability—a power which it appears to Dr. Salter to possess in a greater degree, in proportion to its other seductive effects, than any other sedative.

Dr. Salter's method of giving it will be best seen in the following cases. He does not know that the tincture has any advantage over other preparations, only it happens to be that which he has tried. The liquor atropiæ might, from its uniformity of strength, be even preferable.

"Case 1.—R. G., a lady, aged twenty-five, who has been liable to hay fever for eleven years and to asthma for seven, came to me on May 18th, 1868, for the cure of her hay asthma. She had been suffering for nearly a month, and had not had a single night's rest. She was not troubled with her asthma by the day, but only with her hay-fever symptoms. As soon, however, as she went to bed on came her asthma, and lasted regularly all night. She was worn out for want of rest, and felt fagged and miserable. I ordered ten minims of the tincture of belladonna three times a day, telling her to increase the quantity, day by day, till the characteristic effects of the drug were produced. She gradually raised the dose from the ten minims to twenty. She felt better the first night after taking it. She took it for nine days, and had no asthma whatever. She then, thinking herself cured, and feeling her head very uncomfortable, omitted it for one day, and the following night got no sleep from asthma. She then resumed it, and has had no asthma since. She now regularly takes twenty drops three times a day. Her head is slightly affected, and her eyes decidedly so—misty, and she cannot read; but there is not a trace of asthma. She has never found anything else prevent the attacks. The belladonna seems to have no influence whatever over the other hay-fever symptoms; the sneezing, running at the eyes, &c., go on as before.

"Case 2.—Sarah P., aged forty-six, has had asthma ever since she was nineteen years of age—that is, for twenty-seven years. For the last five months she has been worse than ever, and for some time past has had asthma regularly every night. It begins between two and three o'clock, and after that she gets no rest. I ordered her to take the tincture of belladonna every night on going to bed—to begin at ten minims, and gradually to increase the dose until her head and sight became affected. She came to me on the 29th of last July. On the 14th of August I find the following entry in my note book: 'This patient came to me a fortnight ago yesterday. She has almost completely lost her symptoms ever since, having had uninterrupted good nights. She has gradually reached thirty drops of the tincture of belladonna, and now takes it every night. She looks wonderfully better, and is able to take long walks.' From that time I have not heard anything of her.

"Case 3.—Col. R., aged forty has had asthma for sixteen years. For the last few years it has been gradually getting worse, and now he has it almost every night, commencing at from one to two o'clock A. M. He has tried various things without any success—Indian hemp, chlorodyne, ether, the inhalation of chloroform, dry cupping, coffee, iodide of potassium, abstinence, &c. I saw him on September 16th, and ordered him to try the belladonna at night in the usual way. On the 23d I find the following note: 'He has gradually got the belladonna up to forty minims without any appreciable inconvenience. The nights have been very good. The two last mornings there has been no oppression whatever, nor any sitting up in bed; he has slept right through the night. He walked this morning, directly after breakfast, from his house to the Blackheath to the station—a mile—in sixteen minutes, and the same pace up from Charing Cross station here.' I have not seen him since.

"Case 4.—Wm. P., aged thirty-eight, has been asthmatic seventeen years. His attacks come on every morning on rising from bed, but often trouble him throughout the day as well. There is defective respiration at the right base, violent paroxysmal cough, and a good deal of expectoration. This patient came to me on Oct. 13th. A week after I made the following note: 'Since coming to me this patient has taken the belladonna every night—twenty, twenty-five, and then thirty drops, to which last dose he has struck. The result is that he is quite a different man. He has slept all through the night, dressed himself without any trouble or difficulty, and has walked half over London as quickly and well as ever in his life. When he arrived in town his breath was so bad that he had the greatest difficulty in getting from the Vauxhall station to the church near the bridge. He spits hardly anything. There is now a complete absence of all musical wheezing, and of any adventitious sound whatever; respiratory murmur quite re-established at right base, and indeed perfectly natural everywhere. And this change has taken place in one week.'"

For the following case, in which liquor atropiæ was used, Dr. Salter is indebted to his friend Mr. Hodson, of Bishop's Stortford.

"Case 5.—'John L., aged fifty-five, by occupation a gardener, of active and temperate habits, suffered, from the summer of 1864, from frequent attacks of shortness of breath, followed by expectoration. When he first came under my observation (Sept. 2d) he presented the appearance of a confirmed asthmatic. The respiratory sounds, whenever I saw him, were always more or less characteristic of asthma. At night he generally became worse, so much so that he often found the greatest difficulty in getting up one flight of stairs to his bedroom. I gave him at first iodide of potassium (five-grain doses), then combined it with decoction of senega, afterwards with squills and compound tincture of camphor. He also took lobelia, &c, and burned nitre-paper. With the exception of the last, which always afforded some relief, the frequency and severity of the attacks were uninfluenced by the treatment; indeed he became so bad that his life was a burden to him. I was watching his distress one day, and deploring the inefficiency of treatment, and thinking how the constricted state of his bronchial tubes might be overcome, when the idea of trying a drug that so quickly dilated the pupil occurred to me, and I at once determined to bring him fully under the influence of atropia. He began, Oct. 26th, to take one-sixtieth of a grain in solution every six hours. A few doses produced marked relief, but I pushed the atropia until he took at each dose one-fortieth of a grain. He then became fully under its influence, with greatly impaired vision, entire absence of saliva, and most troublesome strangury. From this time the breathing improved, but he found it necessary to take the medicine two or three times a day up to the middle of the following February. In the spring I sent him for a few weeks for change of air, and upon his return he resumed his full work as a gentleman's

gardener, which he has continued without interruption up to the present time (Dec. 1868). When he went away I gave him a supply of his atropia, in case an attack should come on, but he told me yesterday that he has never opened the bottle. During the last three years I have found atropia, in all cases of genuine asthma, quite as useful as in L.'s case, but I have never pushed it with any one else as I did with him.'"

Dr. Salter believes one reason why belladonna has not had a greater reputation as a remedy for asthma is that it has not been given in large enough doses. He thinks that, like lobelia, it must be given in doses sufficiently large to produce its physiological effects, otherwise we have no right to say that it has been fairly tried, or to conclude that it has been a failure if it has not achieved a cure. Dr. Salter thinks to give ten minims three times a day in some mixture is simply worthless.

The advantages of administering it in the way Dr. Salter has described are :—

1. That, giving it at night, you bring the full force of the drug to bear upon the disease at the time at which it is most liable to come on, and thus, if you are successful, tide you patient over the critical time.

2. By gradually feeling your way up to the required dose, you are able ultimately to reach without fear a dose which you would be unwilling to prescribe without such a tentative approach.

3. In those cases in which the therapeutical dose is reached before the physiological—that is, in which the asthma yields before the sight or head is appreciably affected—it enables you to stop short as soon as relief is obtained, and thus spare your patient any of the disagreeable effects of the drug.

4. By giving it only once in the twenty-four hours, you are able to give a larger dose than you would be able to do if oftener repeated.

5. By confining the dose to bedtime, the patient's days are, in spite of a large dose, passed in comfort; for, as the morning advances, the dulness of head, confusion of sight, and drought of mouth pass away.

6. You are thus enabled to find out what is the dose for the individual—a very important point. People differ very much in their tolerance of belladonna. Some of Dr. Salter's patients have been unable to take more than twenty minims once in the twenty-four hours without very unpleasant symptoms ; while he has known others able to take a drachm three times in the same interval without any inconvenience. And as they differ in their tolerance of the drug, so do they differ in the dose at which their asthma will yield. The only way to ascertain what that dose is, is to make each case a separate experiment.

7. By giving the remedy three or four hours before the attack is likely to come on, the treatment becomes *prophylactic*. If by taking a dose every night for thirty nights the attacks have been for that time prevented, the patient has ceased to be an asthmatic for a month. This is a very different thing from having had thirty attacks in the same time which have been cut short by the remedy. In all "habitual" diseases, in which the recurrence keeps up the tendency, prophylactic treatment has, in relation to final cure, a pre-eminence it does not possess in diseases in which habit has no place. For such diseases it is *the* treatment. It does more than spare your patient an attack of his malady ; it breaks, *pro tanto*, that chain of sequences which is the very life of the morbid tendency.

Art. 39.—*Hemorrhagic Phthisis.*

By Hermann Weber, M.D.

(*The Lancet*, May 1.)

On the 23d of April, the very important and interesting subject of the influence of hæmoptysis, as a cause of inflammatory processes, and of phthisis in particular, was brought under discussion at the Clinical Society of London. The question was introduced in an able paper by Dr. Hermann Weber, who referred also in detail to the question of the treatment of hæmoptysis. Dr. Weber, after referring to a communication lately made to the Society by Dr.

Bäumler, described three instances of hæmoptysis followed by inflammatory processes. The points of analogy in all of them were, that the subjects were men apparently in good health, but predisposed to epistaxis, and they offered no signs of pulmonary disease at the time when they were seized with hæmoptysis; that only several days after the occurrence of the latter, symptoms of bronchial irritation and lobular pneumonia, with pleuritis, manifested themselves, attended by a corresponding degree of fever. In two of these cases the disease terminated in gradual but perfect recovery; while in the third, during the apparent process of recovery, fresh attacks of hæmoptysis took place, again followed by fresh inflammatory changes, and later by another attack of hæmoptysis, leading to immediate death by suffocation. The post-mortem examination exhibited no tubercles, but caseous masses of different ages, surrounded by inflammatory infiltration, and dispersed over different parts of both lungs. The ages of the caseous nodules apparently correspond to the different dates of the attacks of hæmoptysis; the bronchi and air-cells were partly filled with fresh coagulated blood from the last fatal hemorrhage, but a large bronchus was filled by an old, partly discolored coagulum, softened in the centre, and resembling a venous thrombus; some of the old caseous nodules exhibited central softening, and the commencement of the formation of cavities. The author regarded this last case as an instance of a kind of galloping phthisis, caused by the retention of blood in the bronchi and air-cells, and by the changes effected as well in the effused blood as in the surrounding tissues. Dr. Weber considered the inflammatory changes in the two other cases, terminating in recovery, as essentially analogous, as, under unfavorable influences, they might have likewise led to phthisis. He pointed out that this had been the general view until Laennec and his successors had taught that hæmoptysis was almost always the consequence of already existing tubercular changes in the lungs. He thought it was impossible to interpret the cases on Laennec's view, and that much credit was due to Felix Niemeyer for re-establishing the old Hippocratic view. After having mentioned that in many instances hæmoptysis was not followed by any inflammatory changes, owing to the blood having been more or less completely expelled, he alluded to the irritating influence frequently exercised by the retention of other pathological substances (pus and similar morbid excretions) in the lungs. He then made some remarks on the treatment of hæmoptysis, regarding perfect rest as the most important element, and in many cases sufficient to check even severe hæmoptysis. Amongst the remedies not generally used he placed great value on ergotin in rather large doses, administered either by the stomach or by subcutaneous injections, and to the emetic effects of which he attributed the twofold advantage of arresting the hemorrhage and of clearing the bronchi. Dr. Weber further recommended a prolonged residence in elevated regions in cases characterized by a tendency to hæmoptysis, remarking that experience had amply shown its beneficial effects, and had disproved the views that a moderate decrease of atmospheric pressure favored the occurrence of hemorrhage from the mucous membranes.

Dr. Andrew Clark, in an admirable and really eloquent speech, approved of the contents of the paper, and stated that it was high time to modify the still prevalent views on phthisis and tuberculosis. He would designate the cases mentioned as instances of "hemorrhagic phthisis," other forms as "pneumonia," and others as "fibrous phthisis," according to the nature of the pathological processes. He mentioned in his remarks that the blood retained in the lungs would also, without leading to any inflammatory processes in the neighborhood, by changes connected with its own disintegration, lead to the formation of cavities and phthisis.

Dr. Douglas Powell alluded to a fatal case recently examined by him, in corroboration of the view that blood retained in the lungs after an attack of hæmoptysis could be the source of inflammatory processes in the surrounding tissue; and remarked that the changes in the cases observed by him had occurred principally in the lower lobes.

Dr. Buzzard wished to know in what manner the watery extract of secale had been employed hypodermically in cases of hæmoptysis.

Dr. Hermann Weber, in replying, seemed to doubt that the mere disintegra-

tion of clots of blood retained in the lungs could lead to the formation of cavities without causing inflammatory changes in the neighborhood. With regard to the doses of the extract of ergot, he stated that he was in the habit of giving from twenty to thirty grains of the liquid extract of the Pharmacopœia every two or three hours, and that for hypodermic injections two or three grains of the watery extract had been used dissolved in equal parts of glycerine and spirit. He availed himself of the opportunity to direct attention to an important communication by Professor von Langenbeck, at Berlin, on the treatment of aneurisms by hypodermic injections of ergotin.

Art. 40.—*On the Treatment of Phthsis by Prolonged Residence in Elevated Regions.*[1]

By Hermann Weber, M.D., F.R.C.P., Physician to the German Hospital.

(*The Lancet*, May 22.)

Dr. Weber premises that he uses the term "phthisis" to signify not only "tubercular phthisis," but all the different subacute and chronic inflammatory processes of the lungs usually leading to consumption, especially catarrhal pneumonia and its products; regarding, with Thomas Addison, "inflammation as the great instrument of destruction in every form of phthisis," and sharing, with some modification, the view of Buhl and other authors, that true tuberculosis is not a primary, but a secondary disease—the result not necessarily of preceding inflammation, and especially of the cheesy transformation of the products of inflammation.

He understands by "elevated regions," those localities where phthisis, owing principally to their elevation, does either not, or only rarely, occur amongst its inhabitants; and points out that the elevation necessary for producing a certain degree of immunity is not an absolute one, but varies in different latitudes, and seems to decrease with the removal from the equator towards the poles. He, however, does not believe that there is any fixed elevation of immunity for every degree of latitude; and is further not of opinion that the elevation in itself is the sole cause of the immunity, but that it is materially assisted or counteracted by other climatic elements, as the situation of a place on table-land, or on the top or on the slope of a hill, or at the top of a valley; the aspect to the north or south; the configuration of the surrounding ground; the nearness of standing waters or marshy districts, and the elevation of the place above them; the habitual degree of clearness or mistiness of the atmosphere, its purity, or the degree of admixture of foreign elements, mechanical and organic; the geological structure of the soil, and all the circumstances influencing its degree of dampness or dryness, regarding which subject he specially points to the important results of Bowditch and Buchanan's researches.

The author then expresses his astonishment that in spite of the works of Archibald Smith, Mühry, Hirsch, Jourdanet, and others, there is still amongst medical men a great disinclination to sending consumptive patients to high elevations; and he endeavors to prove that the usual objections are entirely unfounded—that cold is not injurious to delicate persons threatened with consumption, but, on the contrary, often beneficial; that it is not correct that in Alpine health resorts the great cold of the winter altogether prevents invalids being in the open air; that hæmoptysis is not more frequent, but more rare, in moderately high situations; that the principal morbid processes leading to consumption are counteracted; and that the tendency to acute affections (catarrhal and inflammatory) in consumptive conditions is likewise diminished.

Dr. Weber then gives a description of seventeen cases treated by prolonged residence on high-level health resorts, these being not selected, but all the cases which at one time or other came under his own observation, and of which he knows the final result. He refers to fourteen other patients, who are still

---

[1] Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, May 11.

residing in elevated regions, and regarding whom the final result is as yet unknown. He has, however, reason to think, from written reports, that the progress of these fourteen cases is favorable. The treatment adopted during the stay on high elevations was in most cases only dietetic and hygienic, except during intercurrent acute affections.

The effect of the high-level plan may be described as decidedly satisfactory in fifteen out of seventeen cases, undecided in one, and unsatisfactory in another. None of the patients have died in high elevations. Two, in early stages of subacute phthisis, had been, as shown by the post-mortem examination, quite cured by a prolonged stay in their native mountains, but were some years later, after their return into unhealthy localities and occupations, seized with fresh attacks, rapidly leading to death. Two other patients had been, to all appearances, likewise cured by residence in high regions, but were later, while living in low regions, again attacked by fresh pneumonic affections, with fatal termination. The remaining eleven cases may be regarded, up to this time at least, as cured; most of them had likewise fresh attacks or relapses, sooner or later, after having again settled in low elevations; but a second and third more prolonged stay on high ground led, as far as can be judged, to final cure, provided the long exposure to unfavorable influences be avoided. Some of these patients had previously spent one or several winters in warmer, low-level health resorts (Egypt, Algiers, the Riviera), without having derived the same amount of benefit as they did on high ground, where they were more free from catarrhal and other intercurrent acute affections. Some had one or several attacks of hæmoptysis while in low elevations, but none while on high ground. Of all the thirty-one cases, including the fourteen still under treatment, only one had an attack of hæmoptysis while on high altitudes.

The author does not regard it prudent to enter on a theory of the *modus operandi*. The agents are too numerous, and the physiological and chemical researches as to their influence on man and animals are insufficient. Thus with regard to the rarefaction of the air, he alludes to three or four possibilities:—1. That in order to inhale the same quantity of oxygen as in low elevations, the mechanical respiratory action must be increased. 2. That, without this increase, the quantity of oxygen inhaled is diminished, and that thus oxidation may be retarded. 3. That, in spite of the diminution in the quantity of oxygen inhaled, the oxidation may remain the same, or become even increased, by a greater "mobility of atoms," according to Drs. Frankland and Tyndall's experiments on combustion. Or 4. That a larger amount of ozone in the air of high elevations increases its oxidizing power.

Dr. Weber is inclined to attribute special importance to the dryness of the soil and air, to the presence of a large amount of ozone, and especially to the freeness of the air from foreign admixtures, mechanical, chemical, and organic, alluding to Pasteur's experiments on the air of different elevations. The fact that most consumptive invalids in the Swiss health resorts feel better during winter than during summer, is likewise noticed, and the probable explanation is sought for in the greater intensity of the beneficial influences just mentioned during winter—viz., dryness of soil and air, large amount of ozone, comparative absence of foreign admixtures in the air. The author mentions that some of the influences at work in the high-level health resorts exist also in some of the low-level, especially maritime, health resorts; and he does not wish to disparage the latter, which have their own advantages, and only requests the Fellows of the Society to give an impartial trial to the elevated health resorts in proper cases, and points to the probability of the great advantage which would arise to the consumptive soldiers of the Indian army, if they were to be sent for a sufficient length of time to the high regions of the Himalayas, instead of being invalided and sent home.

He then shortly refers to the localities suitable for treatment of cases of incipient phthisis on high ground on the Cordilleras, in Switzerland, and in Germany, the number of which would soon be multiplied and provided with the necessary comforts, if the plan advocated were more frequently adopted.

The following points are summed up for consideration:—

1. That the elevated regions deserve greater attention in the management of consumptive tendencies and affections than they have hitherto received.

2. That they deserve this attention not only as summer, but even more so as winter, health resorts.

3. That without under-rating the value of maritime and other low-level health resorts, the elevated localities offer great advantages in cases of early consumption and tendency to consumption, in the disposition to catarrhal pneumonia, and the results of this disease, particularly the so-called tubercular (cheesy) deposits, and tubercular (pneumonic) infiltrations.

4. That in such cases the occurrence of fresh catarrhal and other acute intercurrent affections appears to be less frequent in high-level than in low-level health resorts.

5. That the tendency to absorption and fibrous transformation or cicatrization of deposits is promoted, and the tendency to the breaking down of tissues and formation of cavities is counteracted in elevated health resorts.

6. That the tendency to hæmoptysis is diminished, and not, as usually stated, increased, in elevated localities.

Dr. Weber concludes his paper with a tribute of gratitude to the late Dr. Archibald Smith, to whom he is indebted for much valuable information on medical climatology, especially with regard to elevated regions.

Dr. Symes Thompson said that the author had referred to various elevated health resorts, especially in Mexico and in Peru. He believed there were others in South Africa that were even more eligible. In the colony of Natal, the Drakenberg range attains a height of 10,000 feet, and is crowned by table-land, on which there is free movement of air. The climate is dry, the sun brilliant, and the heat not excessive. He was acquainted with the cases of two phthisical patients who had gone to the Orange Free State, and in whom the results had been very satisfactory. He thought it would be hardly possible to determine, in any locality, the height at which phthisis did not exist; and he believed that the limit would have reference to the isothermal lines, as well as to the elevation. With reference to temperature, he rather feared the effect of extreme cold, and leaned towards a trial of elevated positions in the tropics. The long voyage to the Cape would often be extremely beneficial.

Dr. C. J. B. Williams expressed his sense of obligation to the author. He believed that the notion that cold was injurious to delicate people had taken deep root in the minds alike of the public and of the profession, and would not easily be removed. Our daily experience was that cold is hurtful, and moderate warmth useful. Statistics not at present in existence were needed for the determination of the question that had been raised. It would be necessary also to make a marked distinction between prevention and cure, between phthisis *in esse* and phthisis *in posse*. Although phthisis may not prevail in elevated regions, that does not prove that removal to them will cure the disease. Phthisical patients shrink from cold instinctively; and although to enforce out-door exercise is one of our best hygienic rules, the difficulty of enforcing it is that the phthisical feel that cold hurts them. He believed that great benefit might accrue in the way of prevention, but that in developed disease there would be much risk. Cold might easily be so applied as to derange the circulation, and to increase inflammatory action. In summer great benefit was often obtained by removal to a cooler region; but many patients went to Florida, or came to this country, from Canada, in order to avoid the rigor of the winter. The speaker concluded a lengthy address by a humorous description of the discomforts that might attend upon a winter residence in some of the places suggested.

Dr. Wilks observed that the chief question was whether the benefit might not be due to diminished barometric pressure, and, if so, he considered the fact to be of immense importance. At present the profession knew nothing about the comparative effects of exertion or of quiescence of the lungs in retarding or accelerating phthisis. At present all our systems are founded on giving more oxygen. One man tells a patient to expand his lungs; a second to keep them quiet; a third, to expand them in moderation. He had come to the conclusion, long ago suggested by Dr. Barlow, that disease was developed in proportion to the activity of the organ, and was arrested by keeping the lung quiet. If in an elevated position, where the barometric pressure was diminished, the patient used his lungs only half as much, and thence derived benefit, the fact would be the most important one in our knowledge, and would be worth all our remedies.

Art. 41.—*The Hypophosphites in Consumption.*

By J. B. Churchill, M.D.

(*Medical Times and Gazette*, December 5, 1868.)

The following is Dr. Churchill's reply to Dr. Cotton's paper on the hypophosphites which appeared in the last volume of the "Half-Yearly Abstract.

"Dr. Cotton's paper on the hypophosphites in the *Medical Times and Gazette* of Saturday, Nov. 14th, is a repetition of the line of argument published in the *Lancet* four years ago,[1] and completely demolished by me in 1864.[2] There is, however, one marked difference between his last experiments and his former ones. In 1863 Dr. Cotton had used my own hypophosphites as supplied by Mr. Swann, and the number of cases which improved was eight out of twelve, four of which, as I have shown, were cured. In the present instance the hypophosphites were supplied by the Brompton Hospital, and the proportion of cases benefited was only four out of twelve—that is, half the proportion obtained in 1863. Dr. Cotton argues now, as in 1863, that if a patient who was improved while taking the hypophosphites still continues to do so for a short time after they were omitted and carbonate of soda used instead, the continuation of the improvement is due to the carbonate—that this latter is as effective as the hypophosphite—and that, in fact, both were of no use.

"Why does not Dr. Cotton try carbonate of soda first and alone, and then compare the effect produced with that of the hypophosphites?

"Of course, in a comparison of this kind, the final result only is to be taken account of. True it is that the discoverer of the medical action of the hypophosphites has been at great pains and labor to show that the extent of organs involved, the stage of the disease, the many and varied complications attending its progress, the type of the attack, the possible existence of inflammatory adjuncts, together with the conditions of hereditariness, constitution, temperament, sex, age, and many others, involve a practical consequence of the highest value as to the mode, form, dose, and time of administering the remedies, while at the same time they lead to positive and almost mathematical data for the prognosis of each individual case.

"But Dr. Cotton does not descend to such minutiæ. Still, they will have to be taken into account. His statements are in direct opposition to those of many eminent members of the profession, amongst whom, to cite only a few of those at home, I would mention Drs. C. J. B. Williams and C. J. Williams (the latter one of the physicians of the Brompton Hospital, whose able paper on the nature and treatment of pulmonary consumption I have perused with much interest), and Dr. Thorowgood, physician to the City of London Hospital for Consumption. Independently of these individual testimonies, I commend to the timely meditation of my adversaries the following facts:—

"*Fact* 1.—Up to the year 1857 the hypophosphites were of no practical use, were known merely to a few chemists as samples in the laboratory, and to the medical profession were not known even by name.

"*Fact* 2.—In that same year they were brought before the world by me, as the specific remedy for consumption.

"*Fact* 3.—Their use has spread over the whole civilized world—from Russia to Australia, and from India to Peru.

"*Fact* 4.—These salts, which were unknown ten years ago, are now in such general use that at the Paris Universal Exhibition last year they were to be seen in the show-cases of one-half of the exhibitors in the chemical department.

"*Fact* 5.—The last report of the Registrar-General shows that in England there has been a marked decrease in the number of deaths from consumption within the last ten years.

---

[1] *Lancet*, April 25 and May 2, 1865.

[2] In my book, "De la Cause immediate de la Phthisie Pulmonaire et des Maladies Tuberculeuses, p. 933. Paris. 1864.

"It may be that even from Brompton a new voice may come, like that of a skilful and honest Belgian physician, saying: 'Seven years ago I stated[1] that I had used Dr. Churchill's hypophosphite of soda without succeeding in a single case. Truth compels me to declare that I now prescribe the hypophosphites in my daily practice. I have observed several cases of complete recovery, and acknowledge that the hypophosphites undoubtedly possesses the power of curing consumption.'"[2]

ART. 42.—*Inhalation of an Aqueous Solution of Carbolic Acid under the Form of Spray for the Treatment of Phthisis.*

By WILLIAM MARCET, M.D.

(*The Practitioner*, November, 1868.)

Dr. Marcet states, that considering the phenomena of chemical decomposition which must take place in the diseased portions of the pulmonary tissue in phthisis, owing to their low state of vitality, it occurred to him that if an antiseptic agent could be introduced into the lungs without interfering with the general functions of the body, the progress of the disease might be arrested or its mortality diminished. He therefore decided to try carbolic acid in the *form of spray*, as that most likely to cause the antiseptic agent to remain in contact with the diseased parts for some little time before its absorption in the blood.

Dr. Marcet relates seven cases treated by this method, and sums up the results of his experiments as follows:—

"1st. When a solution of from half a grain to one and a half grains of crystallized carbolic acid in one ounce of water is inhaled in the form of spray by a patient in the chronic first stage of phthisis before softening has taken place, and perhaps also when the process of softening is just commencing, or at the very outset of the second stage, relief is thereby obtained, and in some cases it appears to assist, with other means, in arresting the disease. After using the spray, the patients feel as if their breathing becomes easier and deeper; on moving about and going up stairs there is less dyspnœa; the stitch often felt, or the sudden check to the expansion of the chest in the act of breathing, is partly or entirely removed, cough is frequently relieved, and the expectoration may be considerably diminished. The absorption of any fluid in the smaller bronchi and pulmonary vesicles appears to be favored, as shown by a lessening of the crepitation. I cannot confidently assert that I have known any plastic materials in the lungs to be absorbed while the spray was being used, still I believe that in some of my cases the dulness on percussion has diminished and even disappeared, partly from the effects of the carbolic acid spray. The treatment with the spray should not be adopted exclusively, but in addition to the use of counter-irritation, cod-liver oil, &c.

"2d. In cases of acute second and third stages of phthisis, when the process of softening is going on rapidly, accompanied with a quick pulse, high temperature, debility, and emaciation, the inhalation of the carbolic acid spray, although it may afford temporary relief, appears objectionable, from its depressing influence over the action of the heart. I should also think it advisable to withhold the use of the spray in the first acute stage.

"3d. A solution of carbolic acid, containing more than two grains to the ounce, should as a rule not be used, from its depressing action on the cardiac pulsations.

"From the above it will be seen that the spray should be employed with great caution; and if giddiness, faintness, trembling, with a permanently weakened pulse, or an increased irritation in the lungs, should result from the treatment, it ought to be at once discontinued.

"I am in the habit of using the spray as obtained from Clarke's Hand-ball

---

[1] Journal de Médecine de Bruxelles.
[2] Dr. Holsbeck, "Le Scalpel," December, 1865.

Spray Producer; sometimes I have adopted Mathieu's Spray Producer, in which the liquid is projected against the inside of a tube and thus atomized. I have tried and given up the steam spray-producing apparatus on account of the difficulty of regulating its action. It appears to me sufficient to inhale the spray once a day, or once every two days, for a quarter of an hour or twenty minutes."

(c) CONCERNING THE CIRCULATORY SYSTEM.

ART. 43.—*Atrophy of the Heart.*

By N. FINN, M.D.

(*Centralblatt f. d. Medicinisch. Wissenschaften*, August, 1868; and *American Journal of the Medical Sciences*, January.)

The following general results are presented by Dr. N. Finn, of the Pathologico-Anatom. Institute of St. Petersburg, as having been derived from the examination of one hundred hearts.

1. Simple atrophy is never developed as the only morbid condition. It is unattended by a morbid condition of the cardiac bloodvessels.

2. Neither the absolute or relative weight of the heart, thickness of its walls, nor their reduced circumference can be received as a certain indication of the presence of atrophy of the organ.

3. The brown atrophy of the heart, so called from a morbid change in the coloring matter of the muscular tissue, is a common accompaniment of all diseases attended with great emaciation.

4. Fatty degeneration of the heart (fatty infiltration) occurs chiefly in persons who have a large development of the subcutaneous adipose tissue; the infiltration is often to such an extent as to prove troublesome.

5. Fatty degeneration of the heart occurs as an acute or a chronic affection. It is observed more frequently on the right than on the left side of the organ. In some cases the entire substance of the walls of the ventricle is affected, in others only a portion. In the chronic form there is always atheromatous degeneration of the cardiac bloodvessels. The *arcus senilis* is never met with in cases of fatty degeneration of the heart.

ART. 44.—*Diagnosis of Polypi of the Heart.*

By BENJAMIN W. RICHARDSON M.D., F.R.S.

(*Medical Times and Gazette*, November 21, 1868.)

Dr. B. W. Richardson gives a series of rules for the diagnosis of the occurrence of fibrinous deposits in the heart.

The symptoms are those of hemorrhage without visible loss of blood. They are falling temperature; pallid or livid surface; feeble, irregular, or fluttering pulse; muscular prostration, and gasping respiration. These symptoms may depend on nervous lesion, hemorrhage, flux, exudation, accumulation of fluid in the pericardium, or obstruction of respiration, so that it is necessary that all these be excluded. Dr. Richardson then proceeds to enumerate the physical evidences of the separation of fibrin:—

"The first of these is a peculiar dyspnœa. I allude now specially to cases in which the obstruction is on the right side. The dyspnœa is most distressing; it admits of no relief. If you ask where is the oppression, the finger is invariably pointed to the heart; if the patient can speak and explain his symptoms, he will describe that he has no difficulty in drawing in breath—that he has no pain, in the ordinary sense of the term, but yet he feels that he is sinking from inability to breathe. This dyspnœa lasts to the end, and there is often intense working of the alæ of the nose. The explanation of the dyspnœa is that the blood has been cut off from the air, so that, whatever efforts are made to

breathe, there is no efficient result. I have already said in the young obvious signs of emphysema attend the condition.

"There is dyspnœa, again, when the obstruction caused by fibrin is on the left side; but though severe in character, it is not of the same type as is described above. It is congestive rather in nature, and is referred by the sufferer to the chest generally, not specially to the heart.

"From the dyspnœa I turn next to the heart itself. I was at one time of opinion that few, if any, special physical signs of separation of fibrin exist as reliable signs. A larger experience has, to a considerable extent, modified and corrected that opinion, and indeed, during the last five years, I have detected not only fibrin within the heart, but the actual position of the mass in regard to the cavities, with extreme precision. The points I keep in mind are as follows: If, with all the conditions likely to lead to separation, I find the action of the heart feeble and irregular, I make a careful examination with the stethoscope for two sounds of the heart on the right and on the left sides of the organ. Whatever theory we may adopt as to the cause of the heart's sounds one thing is certain—that in health the tricuspid and mitral valves act together that the pulmonary and aortic valves act together, and that the first and second sounds respectively are coincident with the simultaneous action of those valves which move together at the same time. When, therefore, in any given case, the action of the valves on one side of the heart is impeded—when, for example, a mass of separated filbrin interferes with the valvular movements—then the sounds produced by the valves on the impeded side will be reduced or even lost altogether. It is possible to detect this. In a case I saw with Mr. Spencer Wells, where filbrin was being laid down on the right side of the heart, this line of diagnosis was so easy that he expressed to me it had only to be practised once to be recognized ever afterwards. Suppose, then, that the separation is on the right side of the heart, there will be feeble or deficient first and second sounds over the line of the right side of the organ—that is to say, in the line of the heart by the sternum. Turning, however, to the left side, both sounds of the heart will be heard.

"Supposing the separation of fibrin to be on the left side, these physical signs will be simply reversed—that is to say, the sounds of the organ will be faint or inaudible on the left, audible and distinct on the right side.

"One other distinctive point is worthy of attention. When the heart is blocked up with fibrin on the right side, its impulse is reduced, and its action is feeble throughout. When, on the other hand, the organ is blocked up on the left side, the action as a rule is for a long time irregular, tumultuous, struggling.

"In some rare cases there is separation of fibrin on both sides of the heart, in which the prominent symptoms are those of obstruction in the right cavities."

Art. 45.—*On a Case of Hemorrhagic Pericarditis treated by Double Puncture of the Pericardium.*[1]

By M. Henri Roger.

(*Gazette Hebdomadaire*, No. 50, 1868.)

Eug. Dance, a little girl, aged eleven years, was admitted into the Children's Hospital on October 21. The child was very intelligent, and until the last year had always been in excellent health. Though the child of a rheumatic father, she had never suffered from articular pains or been affected with chorea; she had never complained of palpitations or of dyspnœa. When at school she shared in the games of her companions, and her mother had never observed any loss of breath or cyanosis, even after violent exertion. About a year before her admission the little girl commenced to complain of stitching pains in the side; she was frequently subject to dyspnœa; palpitations of the heart came

---

[1] Communicated to the Société Médicale des Hôpitaux, Nov. 13, 1868.

on with changes of position and during walking. The general health was good, sleep natural, and the appetite preserved.

At the commencement of August the palpitations, the dyspnœa, and the pains in the side increased, and became associated with articular pains in the knees and shoulders. On August 14, the young patient had fever, nocturnal agitation, very great dyspnœa, and occasional attacks of suffocation. The practitioner in attendance recognized pericarditis, and treated the disease with pericardial blisters and frictions of cod-liver oil, and by administering ether internally. At the commencement of September, the child was affected with cough, and the face became swollen. At the end of the third week the patient was able to leave her bed for three or four hours in the day. This condition of things remained the same up to the middle of October: the child remained in bed during most part of the day, and was affected with cough, dyspnœa, and fever. On October 20 the fever was stronger, and it was then remarked that the left lower limb had become œdematous. On the following day the child was brought to the hospital.

The following was the condition of the patient on the day of admission: she was sitting up in her bed and supported by pillows; dyspnœa, deep and painful inspirations; the thorax raised by a general movement which affected even the head and neck; a cyanic tint in the eyelids, the eyes sunken, the globes injected, the lips of a violet color, the expression of face resembling that presented in attacks of cardiac asthma; obstruction both in the peripheric and in the deep circulation; pulse small and hard (156 to 172 pulsations), regular; temperature moderate; hands cool; cough frequent.

On examination of the chest a very extensive and very marked fulness was found in the pericardial region. Along the extent of this fulness there was complete dulness from the first intercostal space as far as the seventh rib; transversely this dulness passed on the right side, about one finger's breadth beyond the right edge of the sternum, and on the left reached a line carried vertically from the anterior border of the armpit. The cardiac beatings could not be felt; they were dull and far removed from the ear, but without other abnormal characters. No rubbing sound. In the thorax, signs were made out of a slight pleural effusion, and of some congestion of the lung on the right side, whilst on the left side the respiration was normal.

In the left lower limb there was œdema, with heat and pains excited by contact and movement; there was also tenderness along the course of the veins of this limb. The opposite limb was scarcely swollen. Nothing abnormal in the urine.

All the observed signs belonged indubitably to *a considerable effusion into the pericardium.* But the nature of the fluid, the cause of the effusion, and the pathological connections between it and the symptoms observed on the side of the pulmonary and the peripheral circulation, were questions which could not be elucidated. There was, however, urgent necessity for the performance of paracentesis of the pericardium, an operation which had never been attempted on infants, and which M. Roger had previously rejected more than once, in spite of the indications which he had met with, and very probably to the great detriment of the little patients.

On the following morning, Oct. 23d, the operation was performed in the following manner: The instrument used was a hydrocele trocar, furnished with a membranous valve; this, after a careful examination for the purpose of making sure the diagnosis, was thrust into the chest through the fifth intercostal space, at a point about one centimetre and a half from the left border of the sternum. The patient was placed on her left side, and in a half-sitting position on her bed. M. Roger, who stood on the left side of the girl, carried the instrument from below upwards, and from left to right, that is to say, towards the sternum. The trocar penetrated without difficulty, and without giving great pain to the child, for about a centimetre in depth, and it was then rendered manifest that the pointed extremity of the trocar could be manœuvred in a cavity full of fluid. The puncturing instrument was withdrawn. M. Roger was then much moved when he found flowing away, not serosity or pus, as was expected, but pure blood. As he had never before met with a case of hemorrhagic pericarditis, the supposition that this affection existed here did not occur to him at first, and

it was thought that the mammary vessels or the wall of the heart had been wounded. He was, however, soon reassured after finding that the canula was in a cavity full of fluid, that a stylet passed through this could be pushed on for some distance without meeting with resistance, that the blood flowed slowly and regularly, and finally that there was no threatening of syncope, and that the child was sensibly relieved. The quantity of blood which flowed away did not exceed 100 grammes, and notwithstanding the various manœuvres, no more than this could be obtained. The trocar was withdrawn, and a piece of diachylon applied over the puncture. Wine and nutriment were then given to the patient.

The operation was followed by very marked relief; the respiration was reduced in frequency and became less troublesome, and the physiognomy of the patient was less anxious. The precordial dulness and also the prominence was apparently diminished to a slight extent. In the afternoon the patient was calm; the pulse remained small and very frequent, 150; the dyspnœa was less intense in spite of the persistence of the pleural effusion and the congestion of the right lung. Finally, the beats of the heart were less than before the operation.

On the following day, the 24th, the improvement continued, but it was of short duration. On the 25th and 26th the return of the pericardial effusion was announced by physical signs. The respirations were 60, and the pulse 160, in the minute. The œdema of the leg and thigh became more painful, and a hard cord was felt, indicating obliteration of the principal veins of the limb.

On the 28th, five days after the operation, the phenomena had returned to their *summum* of intensity. The functional disturbances were very great, and the circulation had become more and more impeded. The swelling was considerable, and the dulness had increased in every direction, and now measured seventeen centimetres from above downwards, and twenty-one centimetres at least from side to side. Later in the day, M. Roger found the poor girl in so serious a condition that he decided upon attempting a second puncture in order to ward off pressing danger. The same trocar was then pushed into the chest one centimetre without the seat of the first puncture, in the same intercostal space. When the trocar had been withdrawn, nothing flowed away through the canula. Still it could be distinctly felt that the instrument was in a cavity. A stylet introduced along some depth came against no obstacle; the canula was moved in all directions, but in vain; not a drop of fluid appeared at its orifice. At this time, during a forcible inspiration, some air was drawn in through the canula and penetrated into the pericardium without causing any immediate or ulterior accident. M. Roger then gently withdrew the canula, and a few drops of reddish serosity afterwards escaped from the wound.

The trocar was at once re-introduced and carried directly backwards, and at this time there was a full stream of sanguinolent, brownish and slightly fibrinous serosity. 500 *grammes* of this fluid were withdrawn. There was immediate relief.

The general venous congestion was diminished, and the cyanosis less marked; the face lost its puffiness, and the dyspnœa was less. The external swelling was reduced in a surprising manner, and the dulness was replaced in the sub-clavicular region by a clearer sound. The child, whose face was no longer expressive of anguish, was able to lie upon her back and upon the right side, positions which had previously been impossible.

On subsequent days, the improvement persisted and influenced all parts at once. The respiration fell to 44, and the pulse to 150 and to 132. On the 3d and 4th of November the improvement was still more evident, and sleep, appetite, and good spirits were restored. On the 10th the state of patient was more and more satisfactory: pulse 120, respiration 40. There was no longer any prominence in the precordial region; the beats of the heart commenced to be felt on palpation; the systolic impulse, though feeble, was even visible to a slight extent. The child was able to take a few steps in the ward. In short, the patient could be regarded as *almost cured* of the considerable intrapericardial effusion which had directly threatened her existence.

Unfortunately, while the central circulation was restored to its freedom by the evacuation of the fluid compressing the heart, and while several of the morbid phenomena more or less directly associated with the effusion were diminished in intensity or had disappeared, the lesions of the pulmonary apparatus persisted with good and bad alternations which gave indications of the variations of the febrile condition, and of the persistence, although to lesser degree, of the dyspnœa and cyanosis.

On November 13th, twenty-one days after the first puncture, and six days after the second, M. Roger found that there was still an absence of great effusion within the pericardium, and at the same time a presence of persistent pleural, pulmonary, and hepatic lesions upon which alone the remaining functional disorders were dependent.

The improvement in the condition of the patient was maintained until the 22d of November, when there was every hope of a complete cure. On the following day, however, the pericardial effusion returned; the pulmonary lesions actively progressed, and, in addition, rheumatic pains attacked the neck and both elbows. The patient fell into a state of intense somnolence and of *subdelirium*, and on November 28th succumbed without convulsion after a slow agony.

ART. 46.—*Effects of Rowing upon the Circulation.*

By T. R. FRASER, M.D.

(*Quarterly Journal of Science*, January.)

Dr. Fraser, of Edinburgh, has been carefully examining the effects of rowing on the pulse by means of the sphygmograph. Dr. Fraser had the opportunity of recording the "sphygmograms" of a crew of healthy men on several occasions before leaving the boat-house, and immediately after return. The tracings show clearly that an extremely large quantity of blood is being circulated with great rapidity—a condition of the circulation which would be considered essential on other grounds for the continuance of prolonged and severe muscular exertion. It is obvious that in the great majority of functional and organic diseases of the vascular system such a condition could not possibly be maintained. The subjects of these diseases are therefore completely incapacitated from *violent* rowing exercise, and cannot be in a position to be injured by it. It is possible that the presence of incipient forms of disease of the vascular system may not altogether prevent such exercise from being undertaken; but Dr. Fraser believes that all such diseases may be detected by the use of the sphygmograph in time to prevent further mischief, the examination being made immediately before the boat is entered, and a few minutes after a moderate pull has been indulged in. The effects produced by rowing on the circulation do not differ from those of many other forms of muscular exercise.

ART. 47.—*On the Development of Cardiac Diseases in consequence of Bodily Exertions.*

By DR. THURN.

(*Wiener Medicinische Wochenschrift*, 1868; *Schmidt's Jahrbücher*, No. 2, 1869.)

Dr. Thurn directs attention to the frequency of the occurrence of cardiac diseases, especially hypertrophy, after muscular exertions. In consequence of severe exercise there is brought on in the first place fatigue of the muscular tissue of the heart, which occurs the more rapidly as the nutrition of the whole body is less suitable and less adequate, and as the muscular tissue of the organ is less readily excited by the nervous centres. In addition, the heart, especially the left ventricle, is not capable of offering due resistance to the increase in the pressure of blood caused by long continued activity; then follows dilata-

tion of the left ventricle and subsequently hypertrophy. These processes were closely observed in a small number of soldiers examined by Dr. Thurn. Some individuals who at first were perfectly healthy presented after longer or shorter terms of service a considerable degree of hypertrophy of the left ventricle.

The gradual change is associated with the following symptoms: some soldiers complained at the first period of their drill, which took place in the summer, of palpitations and difficulty of breathing. Later, after a forced march or some other severe exertion, came on attacks characterized by mists before the eyes, whizzing noises in the ears, and weakness of the limbs. There was also a sensation of fulness in the chest, the temperature was considerably elevated, the heart's beats diffused, the tone obscure, and the pulse frequent, small, and soft. There were frequently fits of constant gaping. These attacks came to an end in the course of from five to fifteen minutes, but the heart's action remained excessive for hours and even days after. At times the symptoms were more severe. There was great dyspnœa, the features were expressive of great anguish; the skin was pale; the heart's beats weak and often irregular; and the pulse small, thready, and rapid. Soldiers who had frequently suffered from attacks of this kind, were finally affected with hypertrophy of the left ventricle.

(D) CONCERNING THE ALIMENTARY SYSTEM.

ART. 48.—*Sea-Sickness Prevented or Cured by the Spinal Ice-bag.*

By JOHN CHAPMAN, M.D., M.R.C.P., Physician to the Farringdon Dispensary.

In his work on *Sea-sickness*, Dr. Chapman states that, "the doctrine of the excito-motor or reflex functions of the spinal cord is a guide to the whole physiology of sickness," and that, "following it," he "was led to predict how to prevent, arrest, or control not only sea-sickness, but also how no remedy or palliate every kind of sickness, whatever may be its *primary* cause."

"I hold," he adds, "that the *proximate* cause of sea-sickness consists in an undue amount of blood in the nervous centres, along the back, and especially in those segments of the spinal cord related to the stomach and the muscles concerned in vomiting. This condition is induced by the movement of the vessel, in, I believe three ways: 1st, through the brain; 2d, through the ligaments of the spinal cord; 3d, through the abdominal and pelvic viscera.

"If by one or several cases the amount of blood circulating in the spinal cord be increased considerably beyond the normal amount, all the nerves emanating from it partake of the increased activity of the cord itself, and convey from the centre to the periphery of the nervous system an abnormally large number of exciting impulses. Those parts of the body which are subject to the will—the purely voluntary muscles—resist these impulses most easily; and only in extreme cases, therefore, are their ordinary functions deranged; but the involuntary or purely organic functions, being unsustained by cerebral influence under the direction of a dominating will, have their usually regular and tranquil life easily disturbed and thrown into confusion by the unwonted number of exciting impulses transmitted to them from the preternaturally excited spinal cord."

Dr. Chapman also explains how the cold sweat, and the copious secretion of mucus often ejected from the stomach, are due to excessive stimulus from the spinal cord, which he affirms to be the efficient cause of glandular action; and maintains that those occasional phenomena of sea-sickness, cramps, or spasms—proceeding in rare instances to convulsions—are also due to hyperæmia of the cord. To a like condition of the sympathetic nervous centres, he refers the deadly pallor, the physical weakness, mental prostration, and indifference, which, in degrees ranging from mere *malaise* to such vital depression as to imperil life itself, form a part of the malady; and, in his elaborate monograph on the disease, he demonstrates, step by step, how the ship's movements cause an abnormally large afflux of blood in the nervous centres, and how, that condition having been induced, all the phenomena of sea-sickness are originated by it.

"The inevitable conclusion," he says, from all the facts and arguments of his exposition of the pathology of sea-sickness, is that "the only scientific and really effective remedy for the disease must be one which has the power of lessening the amount of blood in the whole of the nervous centres along the back. This," he has proved, "can be effectually done by lowering the temperature of the spinal region by the application of ice. A formidable looking remedy," he admits, "but when it is judged of by the aid of experience, it ceases to terrify, and, on the contrary, is found decidedly agreeable. Ice applied in bladders or by any of the ordinary methods would undoubtedly occasion great discomfort, would constrain the movements of the patient, compelling him to remain for the most part in one position, and in fact, could not be so applied as to insure success." But the application of ice along the spine, in the spinal ice-bag expressly devised by Dr. Chapman for the purpose, is liable to none of these objections. "It is necessary," he says, "*first*, that the ice be kept in contact with each region of the spine, the upper portion of the ice being prevented from falling down as the melting proceeds; *secondly*, that the application do not extend far on each side of the spinal cord, otherwise the patient will become cold; *thirdly*, that, having regard to the comfort of the patient, the mouth of the bag containing the ice be so effectually closed as to prevent the water from escaping as the ice melts; *fourthly*, that the mouth of the bag be as wide as the bag itself, in order that the bag may be easily and rapidly filled; and *fifthly*, that, without any inconvenience to the patient, facility should be afforded for giving escape to the air which accumulates in each compartment of the bag as the ice melts."

The following evidence of the soothing and agreeable effects of the ice is extracted from the reports of the *Experiments* published by Dr. Chapman in his pamphlet on *Sea-Sickness*, of the efficacy of the Spinal Ice-bag in curing that disease:—

Case 1.—"I think nearly every one was sick, and I, the usually most of all, not only not sick, but even well, feeling as if I were in a cradle, being rocked by the gentle hands of a tender nurse. . . . I don't know of course the effects of ice on a long-continued voyage, but I venture to believe that the feeling of perfect comfort would continue as long as the ice is kept on." Case 2.—"She felt the cold to the back peculiarly grateful, but wished it more intense; the bag was therefore placed next the skin. This change delighted her." Case 4.—"In about ten minutes after the vessel started she became violently sick, the muscular effort being so extreme as to cause her to say, 'Oh, doctor, I think my heart is coming up!' I applied ice along the entire spine as quickly as possible, when she was *instantaneously* relieved, and then lay down upon the ice soothed and calm." Case 6.—"About twenty minutes before reaching Boulogne, the ice in the bag was so nearly melted as to cause her to feel that the refreshing and sustaining influence of the cold was lessening; I therefore placed an additional bagful of ice outside her dress, and over the bag already supplied; this sufficed to restore the agreeable sensations she had hitherto enjoyed, and to continue them until she landed at Boulogne." Case 9.—"During the second two hours (of the passage to Dieppe) she was fast asleep—lying on the ice. . . . She was particularly impressed with the relief afforded her by the ice, from the great suffering in the head which she had always experienced before when at sea." Case 10.—"After lying upon the ice, both her sickness *and headache* ceased entirely." Case 11.—"She was lying down very sick, and complained especially of an acute headache. She was laid on a bag of ice, the bag being next the skin. The head became quite free of pain in a few minutes. . . . Still lying on the ice, she fell asleep. In about half an hour she awoke quite well, and continued so." Case 12.—"Having put on an ice-bag, I continued to feel ill about fifteen or twenty minutes, and then rapidly recovered: all nausea, sweating, and chilliness ceased; the color returned to my face, as observed by the captain and some of the passengers; the troublesome threats of diarrhœa and uncomfortable sensations in the bowels passed away, and I continued quite well—really enjoying the remaining five hours of the passage to Dieppe. I wore the ice nearly the whole of the time." Case 14.—"He said he felt the cold agreeable and refreshing; in a few minutes he said he felt better; before long he expressed his astonishment at finding all uncomfortable sensations, together with the nausea, wholly gone." Case 15.—"The lady fears the sea so much as to be in a fright the whole time; this time she was not frightened at all after

the ice had been applied." CASE 16.—"She soon became warm, and fell asleep with the ice on her back. She awoke very hungry, and quite well." CASE 17.—"She was so delighted, poor creature, she thanked me a thousand times. The ice made her quite well, and she went to sleep with it on her back."

ART. 49.—*Cure of Sea-Sickness.*

By Dr. DWINELLE, of New York.

(*New York Medical Journal*, January.)

Dr. Dwinelle publishes an account of a method of treating sea-sickness, which he saw employed, by Dr. Le Coniat of the French navy, with remarkably successful results.

The skin over the stomach is moistened with a solution of sulphate of atropia, in the proportion of a grain to an ounce of water. A flat disk, forming a negative pole of an ordinary volta-electric apparatus, is applied over the pyloric end of the stomach. A sponge attached to the positive pole is passed, for three or four minutes, from the cardiac towards the pyloric end, varied by being occasionally passed downwards. The application is not painful, and is generally followed by refreshing sleep.

In a stormy passage from Brest to the United States of America, Dr. Dwinelle, who suffered much from sea-sickness, was treated in this way by Dr. Le Coniat, with great benefit; and in every instance in which he saw the remedy applied great and immediate relief followed, and generally a complete cure.

ART. 50.—*Treatment of Dysentery.*

By C. A. GORDON, M.D., C.B., Deputy Inspector-General of Hospitals.

(*Medical Press and Circular*, March 3, 1869.)

Experience induces Dr. Gordon to believe that in cases not only of inflammatory dysentery, but in those of the hemorrhagic type of the disease, enemata of hot water repeatedly administered are not only to be highly recommended as means of treatment, but that they afford an amount of relief to the patient that by no other means can be obtained. Dr. Gordon does not mean by this the repeated introduction of long enema tubes, such as were some years ago in common use in India, but the administration of lavements in the ordinary manner. Nor can he too strongly urge the great benefit and relief derivable from the very simple means of permitting patients affected with dysentery to sit upon commodes containing hot water. The vapor soothes the pain of straining in a manner that nothing else does, and thus no doubt becomes a powerful means of cure. Dr. Gordon recommends in cases of hemorrhagic dysentery, that, where gallic acid fails to check the flux, a solution of alum with diluted sulphuric acid added, or of acetate of lead with acetic acid, should be tried.

ART. 51.—*A New Treatment for Chronic Dysentery.*

By E. MALCOLM MORSE, M.D., San Francisco.

(*California Medical Gazette*, September, 1868; and *New York Medical Journal*, November.)

In chronic simple uncomplicated dysentery, by which are meant those cases not kept up by organic disease of the heart, or phthisis pulmonalis, nor dependent on irremediable obstruction of the liver or spleen, Dr. Morse has met with marked success by throwing up into the rectum and colon from two to five pints of Labarraque's solution of chlorinated soda, largely diluted. The theory of the treatment is based on rational principles, and the remedy gives little or no pain, while experience has demonstrated that it is perfectly safe, no bad effects thus far having been observed. Chronic dysentery is a disease so

usually intractable and obnoxious to treatment, that any plan which promises even moderate success is worthy of trial. Of course, in the complicated cases above referred to, the primary treatment must be directed to the disease on which the dysentery is dependent. Dr. Morse says:—

"In order to get the patient into a proper condition to derive the most benefit from these injections, I am in the habit of pursuing the following method: I regulate his diet carefully, of course, and keep him in a recumbent position in order to assist the return of the blood from the engorged mesenteric veins, and those smaller tributaries which are distributed along the large intestine. This state of engorgement prevents the ulcers from healing, and renders each ulcer an outlet from which, in blood and serum, the stream of life ebbs out like water from the tubs of the daughters of Danaus. At daybreak on every alternate or fourth day I give a mild cathartic or aperient, in order to clear out the alimentary canal. The ordinary contents of the intestine produce great irritation when it is in this engorged and hyperæsthetic condition; and it is better to get rid of the feces about the same time instead of letting them run in driblets over the raw surface every hour or two. After the cathartic or aperient has acted sufficiently, I inject very slowly from two to four pints of Labarraque's solution of chloride of soda, diluted, into the large intestine. In this way it becomes a topical application. The right strength for the first enema is twenty parts of water to one of Labarraque's solution. I inject as much of this mixture as he can be made to retain. Two or three pints will generally be enough. Sometimes as much as five pints may be given. Each enema should be made a little stronger, until the patient says that he can feel it smart or burn. When this happens the solution is of the proper strength. The patient should be on his right side, or on his knees with his head low down, while these enemas are being administered. Occasionally it is necessary for him to change his position several times in order that the wash may reach every point where it is needed. Should there be much tenesmus after the injection has been passed, I give an enema of the tinct. opii, or an opium suppository. These applications of the chloride of soda should generally be made once a day. Occasionally it is necessary to give them twice a day, and sometimes, on account of the sensitiveness of the ulcers as they begin to heal, it is better to leave them off for several days, or give weaker solutions. The next indication in the treatment, after cleaning out the alimentary canal and washing the ulcers with the medicated solution, is to keep the bowels quiet, so that the ulcers may remain clean and heal up under the topical application. In suggesting the means of accomplishing this desideratum I am getting upon very debatable ground. The old proverb, '*tot homines, tot sententiones*,' must certainly have been intended for physicians. Each one of us has his own way of using the arms with which we combat disease. I generally give large doses of subnitrate of bismuth three times a day; repeated opiate enemas and suppositories, in order not to disorder the stomach; Dover's powders, repeated if necessary; charcoal, or the mineral and vegetable astringents; the antacids, leeches, and fomentations; taking great care to *keep up* the effect of the medicines by giving them every hour or two. If one drug fails I try another, or give a combination of several of them, in order to have as few stools as possible passing over the ulcerated surfaces while they are healing."

(E) CONCERNING THE GENITO-URINARY SYSTEM.

ART. 52.—*Early Signs of Nephritic Irritation.*

By OWEN REES, M.D., F.R.S.

(*Guy's Hospital Reports*, Third Series, vol. xiv.; and *Dublin Quarterly Journal*, May.)

Dr. Owen Rees has found that a valuable indication in the early stages of kidney disease may be derived from the presence in the urine of *blood-extractives*, which may be recognized before the appearance of albumen in that fluid. The

escape of the extractives shows that a constant and important drain is going on from the blood, and is to be regarded as a warning of approaching albuminuria. The *blood-extractives* may be detected by the addition of tincture of galls to the urine, which immediately precipitates the extractive matters. After five or ten minutes the earthy and potash salts will be thrown down by the spirit contained in the tincture, so that it is necessary to remember that the reaction produced by the extractives occurs immediately after the addition of the tincture.

ART. 53.—*Diabetes Mellitus successfully Treated by Opium without Restriction of Diet.*

By FREDK. W. PAVY, M.D., F.R.S.

(*British Medical Journal*, January 9.)

Dr. Pavy reported to the Clinical Society of London the following two cases: A female, aged sixty-eight, was admitted under his care into Guy's Hospital, on May 26th, 1868. Her complaint had been recognized two years, and at one time she had been passing an exceedingly large quantity of urine, and had been gradually losing flesh and strength. Upon admission into the hospital, the quantity of urine was about five pints a day, and was highly charged with sugar. She was placed upon the ordinary middle diet of the hospital, which included bread, potatoes, and beer. She was also ordered four ounces of brandy, and two bottles of soda-water daily. This diet was continued as long as she remained in the hospital. Upon the day of admission, a draught was ordered, consisting of ten grains of bicarbonate of potash, half a drachm of aromatic spirit of ammonia, and an ounce of infusion of calumba; to be taken three times a day. This draught was, by misunderstanding, continued throughout the patient's stay in hospital. Opium was given in the form of a pill, three times a day, and the dose was gradually increased. A daily examination of the urine was made; and the results were copied into tables. At first, the quantity of urine was 100 ounces, the specific gravity 1040, the quantity of sugar per ounce thirty-two and three quarter grains, and the quantity of sugar for the twenty-four hours, 3275 grains. The first effect of the opium was to diminish notably the amount of urine. The degree of saturation with sugar remained for a time about the same, but through the fall in the amount of urine, the quantity of sugar for the twenty-four hours was diminished. Within three weeks the quantity of opium administered was raised to ten and a half grains daily. It was then suddenly discontinued on account of a greater degree of drowsiness than was desirable being produced; but in a few days was recommenced, and this time, being more gradually increased, was borne without producing any disturbance. On July 28th, the quantity of urine was twenty-five ounces daily, the specific gravity 1027, and no sugar was passed. On the three subsequent days there was a little sugar, but it afterwards disappeared, and remained absent as long as she continued in the hospital, viz., until October 28th. When the sugar disappeared, the patient was taking nine grains of opium daily. It was afterwards further increased to twelve grains, and then gradually diminished until Oct. 17th, when all was taken off, the patient during the remaining time taking no medicine, and passing no sugar. The last daily record was forty ounces of urine in the twenty-four hours; specific gravity, 1025; and no sugar. With the improvement in the state of the urine there was a corresponding improvement in the health and strength of the patient, who ultimately expressed herself as feeling perfectly well in every respect. Upon being discharged, she lived precisely as she was in the habit of doing before she became affected, and had come to the hospital several times; the urine being on each occasion, found devoid of sugar. Dr. Pavy brought to the Society some urine passed on that day, which, upon being tested with the cupro-potassic solution, was seen to be free from sugar. Dr. Pavy had given opium and morphia in other cases; and the result strikingly exemplified the controlling influence of the drug over the disease. One was a middle-aged man, who was suffering from a severe form of

the complaint. By restriction in diet, the quantity of sugar had been reduced to about 1200 and 1500 grains a day. Opium was then administered alone, in gradually increasing doses up to 18 grains daily, when the urine was found to have become devoid of sugar. The opium was then suddenly discontinued, and an ounce of camphor mixture given three times a day. The urine, when the opium was discontinued, amounted to thirty ounces daily; its specific gravity was 1025; and it contained no sugar. On the following day it contained a trace of sugar; the third day, 140 grains were passed; the fourth day, 120 grains; the fifth day, 340 grains; the sixth day, 800 grains; the seventh day, 402 grains; the eighth day, 1060 grains; the ninth day, 680 grains; the tenth day, 612 grains; the eleventh day, 720 grains; the twelfth day, 1712 grains; the thirteenth day, 1162 grains; and the fourteenth day, 1440 grains—when the quantity of urine amounted to sixty ounces for the twenty-four hours, and its specific gravity was 1038. The opium was now resumed, and the daily dose increased until, as before, it amounted to eighteen grains. The urine was now reduced in quantity to thirty-five ounces per diem; its specific gravity was 1033, and the sugar passed amounted to 368 grains. On the following day the urine was forty ounces in quantity, and the amount of sugar passed 250 grains. On the third day, quantity of urine thirty-five ounces, with only a trace of sugar present. On the fourth day, quantity of urine forty ounces; specific gravity 1021, and no sugar. After the period mentioned, a little sugar was again passed, and it was found that the patient was not adhering strictly to the diet that had been ordered. Dr. Pavy had seen him since his discharge from the hospital. On returning home, he discontinued all medicine, and paid no attention to diet, and, as was to be anticipated, his urine was again charged with sugar. The other case was that of a patient who was passing, upon a mixed diet, from eight to ten pints of urine a day, containing about 8000 and 9000 grains of sugar. By a restricted diet and an alkaline mixture, the urine was reduced to four and five pints daily, and the sugar to about 1500 grains. The mixture was discontinued, and hydrochlorate of morphia given, at first in half-grain doses three times a day. The dose was increased, until in about two months nine grains were given daily. The urine fluctuated now between three and four pints a day; and the specific gravity had descended from 1028 and 1030 to 1018 and 1020. The urine also had become devoid of sugar. M'Gregor, as far back as 1837, had published in the *London Medical Gazette*, a record of two cases in which opium had been given in large doses, with the effect of producing for a time a marked palliation of the disease. M'Gregor, in one of his cases, had increased the quantity of opium until it reached ninety grains daily. By modern practitioners, opium had also been generally looked upon as exerting a favorable influence in the disease; but he was not aware that direct evidence of its controlling influence, such as was supplied by his communication, had been previously placed upon record. There was still, he thought, much to be learnt about its extent of power in different cases. The belief was, from the case which formed the basis of his communication, and other experience that he had had, that it would be found sufficient in many instances, amongst elderly subjects, where the disease was observed to assume its mildest form, to check by itself the elimination of sugar. In young and middle-aged subjects, however, where the disease as a rule assumed a much more severe character, his experience was that, to obtain a similar effect, the restricted diet must be conjoined.

Art. 54.—*Cure of Albuminuria by Iodide of Calcium.*

By M. Baudon.

(*Bull. Gén. de Thérap.*, November, 1868; and *The Practitioner*, February.)

A number of cases of albuminuria in which the potassium salt failed, and the calcium salt gave good results, are put on record by M. Baudon. We can not give the details of these cases, but may briefly refer to one or two of them. One of them, that of a woman, aged thirty-six, with albuminous urine, and other characteristic symptoms, was first put on the iodide of potassium in the ordinary

doses, with quinia wine and good animal diet. This produced very unsatisfactory results. The iodide of calcium was then tried. At first it was given in doses of 40 centigrammes (about gr. vj) a day, in three doses, taken in half a glass of fresh water. In the course of a fortnight the dose was increased to 1½ grammes (gr. xxv) in the twenty-four hours. Ultimately the progress under this treatment was so satisfactory that the dose was increased to 3 grammes a day in combination with iodide of iron and quinia wine. At the end of thirty-nine days' treatment, in the course of which the dose of the calcium salt was raised to 4 grammes a day, the patient had completely recovered. M. Baudon regards this as a crucial experiment. But in the presence of our knowledge of the advantage of quinia and iron in certain hæmaturias, it may be asked to what was the result due, the iron and quinia, or the iodide of calcium?

ART. 55.—*Etiological Relationship of Bright's Disease of the Kidneys and Scarlet Fever.*

(*Centralblatt f. d. Medicin. Wissenschaften*, November, 1868; and *American Journal of Medical Science*, April.)

Dr. Steiner examines this question in the *Jahrb. f Kinderheilk.*, 1868. He rejects entirely, as without foundation, the doctrine which teaches that the *nephritis scarlatinosa* is either an accidental complication or a sequel of scarlet fever; but in like manner as the angina, so common a symptom of the disease is produced by the same morbific cause to which is due the eruption on the surface; that is, a localization of the same pathological process upon the kidneys—in the one case, as upon the throat and skin of the others. Post-mortem examination and testing of the urine, from an early period in the disease, show that the kidneys suffer from the commencement of the attack, and not merely from the period of desquamation. The nephritic affection is usually of a purely catarrhal character, and occasionally of so mild a grade as not to be detected during the lifetime of the patient. On dissection after death, however, its existence is shown by the swollen condition of the epithelium of the tubuli uriniferi. When, besides the presence of albumen in the urine, we find cylindrical casts and blood, the nephritis has assumed the croupose form. According to Dr. S., this is the result of a purely mechanical cause, the accumulation of epithelial *débris*, namely, in the tubuli of the kidneys. There results from this a stasis of blood in the parenchyma of the kidneys, and finally effusion. The influence of cold experienced by the scarlatinous patient during the period of desquamation, in the production of nephritis, Dr. S. believes to be much overrated. The croupose form of nephritis often sets in, as such, very suddenly, and may proceed attended by abnormal urination without the slightest indication of dropsical effusion; while, on the other hand, anasarcous swelling may be present without any disease of the kidneys. Nothnagel has observed many such cases.

ART. 56.—*Peroxide of Hydrogen in Diabetes.*

By S. J. BAYFIELD, M.R.C.S.

(*British Medical Journal*, October 17, 1868.)

Mr. S. J. Bayfield has published a case of diabetes cured by peroxide of hydrogen. He commenced with half-drachm doses of the ethereal essence of the peroxide, gradually increasing it to three drachms a day. He also materially relaxed the patient's diet, substituting more agreeable articles for those he did not like. After ten weeks' steady perseverance, with occasional fluctuation, the patient quite recovered, and has kept well for several weeks.

(F) CONCERNING THE CUTANEOUS SYSTEM.

ART. 57.—*The Diagnosis of Eczema.*

By ERASMUS WILSON, F.R.S.

(*Journal of Cutaneous Medicine*, April.)

"With regard to the diagnosis of eczema," Mr. Wilson writes, "it is a superficial and chronic inflammation of the skin, attended with a rugged and desquamating state of the epidermis, and with the exudation, or a tendency to exudation, of an ichorous fluid; the ichorous fluid being sometimes detained in minute vesicular elevations of the epidermis, sometimes free, and sometimes infiltrated in the tissues of the skin. When all these signs are present together, and especially the exudation and the broken epidermis, eczema stands self-confessed; but we have also, frequently, to foresee that an erythematous eruption will, at a future period, become exudative, or that a state of desquamation has, at an earlier period, passed through an exudative stage. In a word, any doubt as to diagnosis can only arise in the instance of the erythematous and papulous forms of the affection, and sometimes, but more rarely, in the squamous.

"Wherever a doubt does exist, we must fall back on the other known phenomena of eczema. Thus, if there be suspicion of an eczematous diathesis; if the patient have any present indication of eczema in the known haunts of that affection, as in the joints, behind the ears, in the head; if he have previously suffered from eczema in any shape; these may be taken as corroborative proofs in aid of your diagnosis. Again, another source of verification is presented in the negative phenomena of the disease. Eczema, it will be remembered, is slow in its progress. It is more superficial than erysipelas, but deeper than erythema. It is unattended with swelling in the beginning, and is rarely marked by much swelling throughout its course. It is pruritic from the first, and the pruritus increases with its advance. It is rarely developed with the uniformity of an exanthem. It is apt to be patchy in one place and papulous in another, and each day contributes to relieve us from our doubt. Moreover, it is important to remember that, unlike the exanthemata, eczema has no premonitory symptoms, and no concurrent febrile manifestations.

"On the other hand, eczema has sufficiently close resemblances to other affections to make it necessary that you should use your best judgment in the inquiry. An erythematous, or a papulous eczema, may resemble a variola, a scarlatina, a rubeola, a roseola, an urticaria, an erysipelas, an erythema, a syphiloderma, or a lepra; but if you are well grounded in the natural history of the disease, your doubts will soon vanish, and you will learn to decide without hesitation. There is a moment when a herpes closely resembles an eczema, but in the fully-developed form of either it would be difficult to make a mistake between them. The same may be said of bullous affections, in their broken state, when they expose to view an inflamed derma, exuding a copious ichorous discharge; and a like remark applies to the circumscribed, squamous, and hypertrophous blotches of eczema, in relation to the well-known disks of lepra Græcorum."

ART. 58.—*Treatment of Eczema.*

By G. BORLASE CHILDS, F.R.C.S.

(*The Lancet*, February 20.)

Mr. Childs recommends a solution of nitrate of silver, ten grains to the ounce of distilled water. This should be applied every second day by the aid of a camel-hair brush; the parts afterwards to be covered with dry lint and oil-silk, and well bandaged from the toes to the knee. Of course the secretions must be attended to. But should the affection be complicated with any disease of the chest or kidneys, it had better be left alone, as under those circumstances Mr. Childs looks upon eczema as a safety-valve, to repress which would only exaggerate the *origo mali*, and probably shorten life.

Art. 59.—*Treatment of Eczema.*

By W. Cory, M.D.

(*The Lancet*, February 20.)

Dr. Cory recommends the application of Schmier's soap, to be continued as long as it produces a pretty strong reaction of the morbid surface; when the reaction ceases, an inunction with cod-liver oil will generally complete the cure. He has also found that the dyspepsia which usually accompanies the disease is more readily relieved by the internal administration of trisnitrate of bismuth.

Art. 60.—*Notes on the Treatment of Favus.*

By Henry Samuel Purdon, M.D., Physician Belfast Dispensary for Diseases of the Skin.

(*Medical Press and Circular*, February 3.

The method of treatment pursued at the Glasgow Dispensary for Skin Diseases consists in removing the crusts by poulticing, then epilation is commenced, and into the part from which the hairs have been extracted, a solution of the bichloride of mercury, two grains to the ounce, is firmly rubbed in, after which a little sweet oil is applied. The epilation may have to be performed more than once. The great point in the treatment of favus seems to be excluding the air from the affected part, which can best be done by the application of oil or ointment; some physicians prefer cod-liver oil. As a local application, creasote has the property of preventing the spores from germinating, and is used by many, as also ointments of white precipitate of mercury, dilute citrine, or iodide of sulphur. Neligan employed constitutional remedies and local applications, the former "used with the intention of correcting or altering that vitiated condition of the system generally, to the existence of which is due the development of the morbid growth in a congenial soil, and the latter to remove the diseased mass constituted by the peculiar vegetable parasite, and to prevent its production." Internally administered iodine and arsenic, in strumous children, cod-liver oil, whilst locally—when the disease occurred in the head—the hairs were cut short, poultices applied to remove the crusts, and the head washed with a strong carbonate of potash lotion, afterwards carbonate of potash ointment applied, over which an oil-skin cap was worn. In two or three days iodide of lead ointment being substituted.

In one case Dr. Purdon tried a lotion of sulphurous acid, one ounce to eight of water, but it did not succeed, the head having to be epilated and treated with the bichloride of mercury lotion. Dr. Purdon has observed tinea circinata and favus existing together. In treating the former affection he now uses a solution of chromic acid, a drachm to the ounce, one application of which is generally sufficient. Patients affected with vegetable parasitic diseases require a good nutritious diet, such remedies as quinine, cod-liver oil, and syrup of the iodide of iron being prescribed.

Art. 61.—*Treatment of Psoriasis by Balsam of Copaiba.*

By Frederick Simms, M.B., M.R.C.P.

(*British Medical Journal*, March 13.)

Dr. Simms's plan is to give from ten to twenty minims of the drug with liquor potassæ and mucilage, and gradually to increase the dose; with young subjects, and especially with fresh cases, the copaiba rash soon appears, and, as it were, carries off the old disease with it. These patients, Dr. Simms says, mend rapidly, two or three weeks find them nearly well; but old subjects, and those with relapses, are harder to cure, the characteristic rash is slow in coming out,

and sometimes they recover without having it at all. In one case only, that of a young girl at St. Louis, had he seen any trouble arise; in this case erysipelas complicated the affair, but was transitory, and without influence upon the case.

ART. 62.—*On Cutaneous Symptoms in Pyæmia.*

(*Gazette Hebdomadaire*, No. 46, 1868.)

The author of an anonymous article on anthrax reports a case of pyæmia in which he observed during life a special acute eruption extended over most of the surface of the body, and manifesting various forms, but with the general aspect of a circumscribed exanthem. The following case had previously enlightened him on the significance of this phenomenon as a diagnostic sign of pyæmia:—

In the course of the year 1867, a man about fifty years of age was admitted into the Lariboisière with stricture of the upper portion of the œsophagus. In spite of emaciation and exhaustion, natural consequences of insufficient nutrition, his general health was fair. Several unsuccessful attempts were made to overcome the obstacle, when finally a small silver sound, which was flexible and terminated by an olive-shaped swelling of some millimetres was passed. On the following day the patient complained of a dull pain at the lower part of the neck on the left side, and deglutition then became painful and more difficult. Some amelioration followed the application of leeches, but the pain again returned, and an intense rigor came on during the following day. Leeches were again applied, but the fever continued and was accompanied by thirst, general depression, change of countenance, and grave presentiments. Four days after the commencement of these symptoms, bright red spots appeared on the dorsal surface of the wrist and around the olecranon processes and patellæ; those spots were rounded, distinctly circumscribed, about one centimetre in diameter, disappearing incompletely under pressure, and causing neither pain nor pruritus. On the following day the spots were increased in size, and by joining most of them together had formed around the olecranon and patella an almost complete ring with irregular contours. Other similar spots afterwards made their appearance upon the dorsal aspect of the forearm, on the inner surface of the left thigh, &c. A finger of the left hand suddenly became swollen and extremely sensitive to pressure, and the integument marked by a diffused rose color; analogous phenomena over one of the malleoli and on the internal aspect of the great toe on the right cofirmed in a decisive manner the diagnosis of pyæmia. The patient died four days after the commencement of the eruption, which extended to several parts of the limbs, always keeping to the same surface, and at times taking on the appearance of acute lymphangitis. At the autopsy were found numerous metastatic abscesses and purulent collections in the finger, great toe, and over the malleolus. There was very irregular contraction of the œsophagus; no trace of false passage or laceration could be found; a purulent deposit was in contact with the left part of the tube a little below the seat of stricture, but did not communicate with the œsophageal canal.

The cutaneous eruption in this case presented a striking analogy with that presented in the case mentioned in the clinical report on anthrax. The wrists were first attacked, and the eruption by its color, limitation, and seat reminded the observer of psoriasis.

It seems to the author of this article impossible to deny a close relation between this limited exanthem and pyæmia, and he has been led to believe that the lesion consists not only in an active injection of the dermis, but likewise in a true production of leucocytes, as has been made out by M. Velpeau in erysipelas.

Allusion is made to another cutaneous manifestation which has also been observed in a case of putrid infection or slow septicæmia terminating in acute pyæmia.

A young man was admitted into the Lariboisière for an abscess in the left iliac fossa rapidly formed in connection with a lesion of the lumbar vertebræ, which was characterized as a sub-periosteal vertebral abscess. The purulent

collection was opened, drained, and daily injected with tincture of iodine. For some time there was a prospect of cure, but in spite of all the efforts made, hectic fever came on with all the indications of a progressive septicæmia. At last symptoms of pyæmia made their appearance and resulted in death. At the autopsy were found metastatic abscesses and signs of phlebitis of the external and iliac and of the pelvic veins on the affected side. Forty-eight hours before death and after a rigor more violent than those preceding, the following appearances were made out: 1st, On different parts of the body were bluish circumscribed spots very similar to the livid eruption observed in some severe fevers; 2dly, A zone of bullæ, which were developed in the course of a few hours on the affected side. This zone commenced at the umbilicus and extended in a half circle along the abdominal wall, running parallel to the crest of the ilium in its course to the spine. The bullæ were of a considerable size, and varied from five to eight millimetres in diameter; some were surrounded by a zone of inflammation. The majority of these bullæ had fallen away on the evening before death. After removing the epidermis, one could see a black staining which involved nearly the whole thickness of the dermis, and was due to mortification of the skin.

From these facts it is concluded—1st, That in cases of pyæmia the skin becomes the seat of various exanthematous eruptions; 2dly, That this symptom is rare, if one may judge so from the silence of authors; 3dly, That it is the *avant-courier* of approaching death.

In a foot-note the author states that he has seen an eruption of purpura in a patient who succumbed to pyæmia after amputation at the thigh. It is also stated that M. Gallard has often observed, in cases of puerperal peritonitis, transient red patches occupying different parts of the face.

Art. 63.—*On Lupus Erythematosus.*

By Erasmus Wilson, F.R.S.

(*Journal of Cutaneous Medicine*, January, 1869.)

"Lupus erythematosus," Mr. Wilson writes, "is a nutritive disease of the skin, a dystrophic affection, occurring on the face, the head, and the extremities. It manifests itself in the form of patches of small size and irregular figures, and presents three principal stages, erythematous, encrusted, and atrophic. It evinces some variety also having reference to the region which it occupies; and is essentially chronic in its nature, lasting generally for a number of years.

"It is a rare affection as compared with other diseases of the skin; occurring only 56 times in 9000 cases; that is, somewhat more than six in the thousand, or little more than one-half per cent.

"Its most common seat is the nose, next the cheeks, particularly in the neighborhood of the eyelids, then the ears, next the scalp, and then the fingers and the toes. Very generally it is met with in two or three of these situations at the same time, and sometimes in all. On the nose it may be situated either on the bridge or on its tip. When it shows itself on the latter, it frequently begins like a chilblain; is red and somewhat swollen, and of a dull red or purplish or livid hue. On the bridge of the nose it begins as a patch of irregular outline, of a dull red or purplish color, sometimes a little raised, but generally flat. This is the hyperæmiated or *erythematous stage*. In a short time the activity of the centre of the patch subsides, it becomes depressed, and then is coated over with a rough scale or thin crust, composed of exuviated epidermis and dried sebaceous secretion. This is the *encrusted stage;* the crust or adherent scale being of a dirty yellow or grayish color; while the border of the patch maintains its prominence and vascular activity. After awhile the depression of the surface is more decided, the crust exfoliates, and the affected skin is found to be attenuated and resembling a cicatrix; this is the third or *atrophic stage.*

"It may be observed that the erythematous and the encrusted stage are not unfrequently blended, and then the first intimation that the patient has of disease of the skin is a thin concreted crust apparently composed of dry sebace-

ous matter, more or less thin or thick, and surrounded by a narrow and irregular margin of a dull red color. Another character, which is so remarkable as to be almost pathognomonic of this disease, is the conspicuous appearance of the apertures of the follicles; the pores are large and dilated, distended with epithelial exuviæ of a yellowish or a grayish tint of color, and often the dry and horny exuviæ stand up prominently from the months of the follicles. It is obvious from this examination of the morbid patch, that the apertures of the follicles are thrown into relief less by the prominence of desiccated sebaceous matter with which they are filled, than by the absorption of the papillary layer of the skin of the interfollicular space; in fact, that the process of atrophy has already begun, and has made evident progress. And at a later period, not only the pores of the follicles are found in relief, but also the chaplet of sebiparous glands which open near their outlet. In some cases, we have seen a kind of delicate dissection of the subpapillary layer of the skin, exhibiting the pores, the sebiparous glands encircling their neck, and a coarse vascular network occupying the intervening spaces.

"On the cheeks and on the face the patches appear as dingy red spots, of irregular outline, coated over the greater part of their area with a dry, rough, horny concretion, forming a thin crust, studded with the gaping mouths of loaded follicles, and bordered by a narrow margin, which fades into the surrounding skin. The objective properties of the patches are dryness, exhaustion of function, attenuation, atrophy, suggesting the idea of a part that is parched up or burnt.

"On the ears, the tendency prevails to the more speedy passage of the disease from the erythematous to the atrophic stage; and encrustation is less common, probably from the smaller size of the follicles and of the sebiparous apparatus. Very frequently the integument is so attenuated that it is stretched like parchment over the cartilage; and the lobulus auris, with its contained fat and cellular structure, has disappeared. So also when the disease attacks the tip of the nose, the prominences and figure of the cartilages are rendered obtrusively conspicuous.

"On the scalp, the disease has very frequently reached the atrophic stage before it is observed; at this time there may be present a thin desquamating crust and complete baldness. The integument is so thin as scarcely to afford a covering to the bone; and the fall of the hair has ensued upon obliteration of the hair-follicles. As on other parts, the follicles are loaded with dry epithelial and sebaceous exuviæ, and the baldness is irreparable.

"On the fingers and hands, as in fact upon the tip of the nose and lobule of the ears, the manifestation of the disease takes place by hyperæmiated blotches which resemble chilblains; and sometimes, when they occur in the winter season, are really chilblains. But although they most frequently occur in the cold weather, they may also make their appearance in the warmer seasons of of the year. Compared with chilblains, they are more sluggish in their pathological changes, less influenced by temperature, and less itchy or painful; and their tendency is not to sloughing and ulceration, but to interstitial absorption and atrophy. Being chilblain-like in their character, these blotches are circular in figure, and somewhat prominent, of a crimson or purplish, or livid color. Subsequently they are depressed in the centre, or cupped, and at the same time the epidermis becomes hard, horny, and opaque; and at a later period the affected skin undergoes the same atrophic change which has already been noticed in the case of the patches on the face and head. It is to observed, however, as there are fewer and smaller hair-follicles and sebiparous glands upon the fingers, there are no dilated pores, and no sebaceous concretion.

"As an affection due to deficient nutritive power, and consequently deficient vital power, the development of the disease at the periphery and at the extremities of the body is an occurrence that might be predicted. Hence the affection of the nose, the ears, the scalp, and also of the fingers and toes. In the instance of the cheeks, irritability may be present as an additional factor. Then we find this disease in individuals of weakly constitution, in females more commonly than in males, and especially in persons who complain habitually of cold hands and cold feet. The stages of the disease are everywhere the same,

the hyperæmic or progressive; the epithelial and stearrhœal, or stationary; and the atrophic, or retrogressive. The more or less prominence of the affection, and its greater or less encrustation, even its more or less complete atrophy, are due, in the main, to situation: the swelling is greatest on the fingers; the encrustation, on the bridge of the nose and face, and the atrophy on the ears and scalp. The reason is obvious: in the first of these situations the cellular tissue is most abundant and lax; in the second, the sebaceous glands are most active; and in the third, the circulation is weakest.

"Looking to the statistics of lupus erythematosus, we find it, as might be inferred from the preceding remarks, more common in the sensitive constitution of the female than in the more sturdy organism of the male; the figures in the two instances being 41 for the former, and 15 for the latter.

"The age of origin of the affection ranges between twelve and forty-eight; but in one instance it made its first appearance as late as seventy-one. The most common period of origin is that between twenty and thirty, in which there occur 22; and secondly, between thirty and forty, which gives 13; consequently, between the ages of twenty and forty, the number is 35. Of the remaining 21, 10 are referable to the period between ten and twenty, and 10 to that between forty and fifty; the twenty-first being the exceptional case, first developed at the age of seventy-one.

"The chronic nature and lengthened duration of the affection are shown by the fact that in the one instance the disease had been in existence for 45 years; 6 had lasted between 10 and 13 years; 17 between 5 and 10 years; and 24 between 1 year and 5; the remaining 8 only, having existed for less than one year when application was made for treatment.

"The peripheral character of the disease is shown by reference to the parts principally affected; for example, the nose, lips, eyelids, cheeks, forehead, scalp, fingers, and toes. In 21 instances these parts were separately affected, but in all the rest there was a combination of two or more of these regions. The disease appeared upon the nose only in 8 cases; on the cheeks only, in 6, three of these occupying the region of the whisker; on the eyelids, solely, it occurred twice; on the scalp only, also twice; on the fingers, twice; and on the upper lip, once. The combinations of several regions were as follows: Nose and eyelids, 4; nose and cheek, 3; nose and fingers, 3; nose, cheek, and eyelids, 2; nose, cheek, and forehead, 2; nose, cheek, and scalp, 2; nose, cheek, and fingers, 2; nose and scalp, 2; and of the following, one each, namely—nose, cheeks, and ears; nose, cheeks, lips, and forehead; nose, lip, and scalp; nose and chin; nose and ears; nose, ears, and fingers; nose, ears, scalp, and toes; nose and forehead; cheek and temple; cheek and ears; cheek, ears, and fingers; cheek, ears, scalp, and fingers; cheek and scalp; eyelids, neck, and fingers; and upper lip, eyelids, scalp, and neck.

"It is shown by these figures, that in the 56 cases before us, the disease attacked the nose 36 times; the cheek 24 times; the fingers, including the toes, 12 times; the scalp 11 times; the eyelids 10 times; the ears 7 times; and upper lip four times.

"The subjective symptoms of lupus erythematosus are very trifling, sometimes indeed so slight as scarcely to attract the patient's attention, they are, for the most part, pruritus, tickling, tingling, pricking or piercing, and heat; sometimes a burning sensation; and in the instance of the ears and fingers burning and throbbing. It is rare that we find it necessary to prescribe for these sensations.

"The cause of lupus erythematosus, as of the whole family of dystrophic affections, is a *constitutional nutritive debility*, which is sometimes *congenital* and sometimes *acquired*, or accidental. It is congenital in persons derived from a phthisical, strumous, or debilitated stock, and also in those whose nutritive power is congenitally weak, but without hereditary predisposition. It is acquired or accidental in such as have experienced the exhausting operation of unbalanced physiological or pathological processes; as in the instance of deficient nourishment, over-rapid growth, advanced age, mental strain, parturition; also in disordered assimilation, syphilis, and other forms of constitutional disease. Of the cases which follow, the disease was traceable in six instances to

a phthisical stock; four were coupled with struma; two were associated with another congenital dystrophic affection, namely, xeroderma, or epidermic ichthyosis; and three were referable to a congenital nervous debility. While among the predisposing causes of acquired constitutional debility, we find, ungenial climate, deficient or improper food, over-growth, old age, mental disquietude, parturition, assimilative disorder, syphilis, rheumatism, cholera, and erysipelas. Of the exciting causes, the commonest is cold, and then heat. In one instance the disease would seem to have been excited by erysipelas, and in another the exciting cause was a scratch with a bramble.

"Not least in importance in our studies of disease is the question of *prognosis*. Is lupus erythematosus curable? And to this question our experience enables us to answer in the affirmative; it is chronic, it is tedious, undoubtedly; from its very nature it must be so, because it takes its origin in a deficiency of vital force; but it is apt to get well spontaneously; and upon this fact we place our reliance of effecting a cure. There are some cases, in truth, which, from the impossibility of restoring the nutritive power, are unquestionably hopeless; but on the whole we have every reason to expect, knowing the cause, by judicious means to combat and to vanquish the inherent weakness on which the disease depends. On the other hand, however much lupus erythematosus may affect comfort, it touches not life; although it points to a necessity for medical interference and for the application of such means as conduce to the improvement of the general health. In a few words, lupus erythematosus is in general curable, but not easily curable, not without an effort and without a sound knowledge of the weak points of his opponent, on the part of the practitioner. The cure may weary the patient and weary the physician; both may be taught by it to take up their burden, and strive forward again.

"As all *treatment* of disease should be founded on rational comprehension of its cause, whether positive or presumed, we may take the idea conveyed by the words 'constitutional nutritive debility' as the aim of our treatment in lupus erythematosus; and to this end we may adapt our remedies, both internal and external; and whether hygienic, nutritive, or tonic. Our patients should be provided with good air, proper means of exercise, a congenial climate, cheerful and elevating pursuits and associations, sufficient clothing, and a generous and nutritive diet. To aid this intention, we may have recourse to nutritive medicines; for example, cod-liver oil, simple and phosphoretted, and arsenic in appropriate doses, and singly or in combination with iron. Moreover, as a cutaneous stimulant sulphur may in some instances be useful; and especially the sulphuretted mineral waters, such as those of Harrogate and Aix-la-Chapelle. And further, the list of predisposing causes will suggest other remedies, whether for the regulation of secretions, the stimulation of appetite, the improvement of the blood, or the strengthening of the nerves. In fact, whatever contributes to the perfection of the general health will invigorate the nutritive power, and whatever tends to invigorate the nutritive power will conduce to a healthy nutrition of the skin, and consequently to cure. Our favorite tonics are citrate of iron and quinine; nitrohydrochloric acid, with tincture of orange-peel, of calumba, of gentian, and the liquor strychniæ; sulphuric acid with cinchona; or phosphoric acid with a bitter tincture, or with that of the hydrochlorate of iron.

"The local remedies the best suited to restore power and health to the skin are the cold bath, frictions and ablutions with some kind of tar soap, or carbolic soap, or even sulphur soap; and the judicious application of stimulant remedies: sometimes we have succeeded in dispersing a patch of lupus erythematosus by pencilling with liquor plumbi; but our favorite remedies are carbolic acid, the liquor hydrargyri nitratis acidus, and a solution of equal parts of potassa fusa and water. We have also used, but with less success, the compound tincture of iodine and iodized glycerine. Sometimes we have obtained good results from the unguentum sulphuris iodidi, and sometimes from the unguentum hydrargyri nitratis; but in general strong stimulation by a liquid application, and repeated after each desquamation of the crust or of the epidermis, has usually answered best. One of our patients, who had been under the care

of Hebra, was treated with strong acetic acid; useful for a time, but not permanently effective."

ART. 64.—*A Note on the Use of Sulphur in Itch.*

By TILBURY FOX, M.D., Lond., Physician to the Skin Department, Charing Cross Hospital.

(*The Lancet*, March 6.)

"In treating scabies," Dr. Fox writes, "we should use the specific remedy in recent cases as freely as we like to the interdigits and wrists *only*, and apply *soothing remedies to the general surface;* that the sulphur should be in small quantity, and that sulphur baths should be discarded." Dr. Fox employs half a drachm to an ounce of lard, with three drops of creasote, and five grains of ammonio-chloride of mercury, a little olive oil, and a drop or two of essential oil. In chronic itch, however, this form of specific remedy may be applied to all eruptions of discrete character. Dr. Fox prefers the three days' treatment of scabies, keeping on the same linen, and then having a thorough cleansing with soap and a clean change. Less after consequences follow this than more heroic and rapid modes of cure.

ART. 65.—*Method of Applying Nitrate of Silver in Erysipelatous Inflammation.*

By JOHN HIGGINBOTTOM, F.R.S., of Nottingham.

(*The Practitioner*, January.)

Mr. Higginbottom, to whom the profession is indebted for the knowledge of the value of nitrate of silver in external inflammations, complains that the directions given by him have been incorrectly copied by writers on the subject. His mode of applying the remedy is as follows:—

"The affected part should be well washed with soap and water, then with water alone, to remove every particle of soap, as the soap would decompose the nitrate of silver; then to be wiped dry with a soft towel. *The concentrated solution of four scruples of the nitrate of silver to four drachms of distilled water is then to be applied two or three times on the inflamed surface and beyond it, on the healthy skin, to the extent of two or three inches.* The solution may be applied with a small piece of clean linen, attached to the end of a short stick; the linen to be renewed at every subsequent application. As the solution of nitrate of silver is colorless, it is necessary to pass a little linen, just moistened, over every part where it has been used, in order to be equally diffused, so that no part be left untouched.

"In about twelve hours it will be seen whether the solution has been well applied. If any inflamed part be unaffected, the solution must be immediately reapplied. Sometimes, even after the most decided application of the nitrate of silver, the inflammation may spread; but is then generally much less severe, and is eventually checked by repeated application. It is desirable to visit the patient every twelve hours, until the inflammation is subdued.

"By these means we have complete control over the disease.

"For the successful application of the nitrate of silver, the ordinary brittle stick, either solid or in solution, must be used. Not the 'lunar caustic points perfectly tough,' nor the crystals and cake used for photographic purposes."

ART. 66.—*On the Application of Oil of Turpentine for Parasitic Affections of the Skin, and for Traumatic Erysipelas.*

By Professors K. VON ERLACH and E. LUCKE.

(*Berliner klinische Wochenschrift*, 44, 45, 1868; and *Schmidt's Jahrbücher*, No. 1, 1869.)

For the destruction of the parasites acting as the cause of many affections of the skin, Kuchenmeister recommended, by preference, alcohol—an agent which immediately arrests the development of all algoid formations. Various experiments have, however, convinced Professor Erlach that alcohol does not extend its action to the fungous bodies vegetating within the hair bulbs. Pityriasis versicolor may indeed be rapidly removed by alcohol, but the tincture of iodine acts more surely than pure alcohol on fungi existing under the surface of the skin in the hair follicles, as in herpes tonsurans. Still, in order for this latter agent to work effectually, it is necessary to shave the whole head, and to apply the tincture repeatedly until the epidermis has been renewed for three or four times, and even then the cure often fails, which in the most favorable cases of herpes tonsurans never takes place before the hundredth day. Professor Erlach states that in cutaneous affections of this kind, oil of turpentine applied with a brush acts more rapidly and with greater certainty. A case of herpes tonsurans thus treated was cured in fifty days, and several cases of mentagra were cured within a week in the same manner.

Since, according to modern views, traumatic erysipelas, as well as septicæmia, is enumerated among the infectious disorders, and as it very often withstands the ordinary methods of treatment, Professor Lücke has endeavored to destroy the infecting agent by means of some deeply penetrating fluid, and with this view brushes over the affected places with oil of turpentine. The following case is selected as an illustration of this method of treatment:—

"Compound fracture of femur; subsequent removal of a sequestrum. On the following evening, vomiting, headache; the temperature 40°.0; a very intense erysipelatous redness about the wound, and extending for some distance beyond; inguinal glands swollen and tender. Application of oil of turpentine. On the morning of the following day, the temperature 38°.6; erysipelatous rash somewhat paler; in the evening, temperature 38°. On the following day the redness had disappeared, and the temperature was normal."

Similar treatment was practised in eight other cases with equally good results; in all the erysipelas ran its course in two or three days. Professor Lücke had previously observed many serious cases of this affection. The most remarkable fact, next to the speedy removal of the erysipelatous eruption, was the rapid fall of the temperature on the local application of the oil of turpentine, which remained constant after commencement of this treatment. This fall was the more surely brought about the more energetically the agent was applied, and was particularly well marked after the oil had been rubbed in. This fall in temperature even occurred when the erysipelas was somewhat far advanced. The reason of this fall is, according to Professor Lücke, to be sought for in the local destruction of the septic material upon which the fever primarily depends.

ART. 67.—*On the Pathological Anatomy of Erysipelas.*

By R. VOLKMANN and F. STENDENER.

(*Centralblatt für die Medicinischen Wiesenschaften*, 36, 1868; *Gazette Hebdomadaire*, No, 8, 1869.)

The following local changes were observed in three cases of erysipelas: The first apparent phenomenon is a natural injection; one is struck by the dilatation of the vessels of the superior layers of the skin, the papillæ being completely filled with prominent capillary loops. In the superior layers of the

skin about the cutaneous vessels, are already observable a great number of small cells, which present the appearance of white blood corpuscles, or pus globules (leucocytes), and often placed in distinct series by the sides of each vessel; these bodies extend, either isolated or collected together, into the tissue of the skin. The exudation remains less abundant in the superior layers of the dermis. In the deep-seated parts it becomes excessive, and the vessels are inclosed by thick layers of leucocytes; finally, large patches are found, which are entirely formed by the accumulation of these bodies. These masses sometimes present a fusiform appearance, which might lead one to conjecture a proliferation of the corpuscles of the connective tissue, but in their centre one meets with the section of a vessel. The corpuscles of the connective tissue do not present any essential changes. These alterations are not localized in the dermis, and attain their greatest intensity in subcutaneous and adipose cellular tissue. The vessels in these tissues are completely inclosed within masses of yellow cells, and instead of prolongations of connective tissue enveloping groups of adipose vesicles, one observes but a kind of network composed of leucocytes isolating the fatty cells.

As soon as the skin becomes pale, towards the second or third day, the disappearance of the extravasated elements commences, especially in the subcutaneous cellular tissue; one observes there nothing more than considerable quantities of cells undergoing rapid transformation into very fine granular bodies; some hours later nothing more can be found than finely granular filaments.

In the more superficial layers of the skin one observes also that the lymphatics are filled with granular cells of a similar nature, either pressed together or commencing to accumulate near these vessels. But a small portion of the elements which form the infiltration may be taken up afresh by the lymphatic vessels, the majority die, and the most striking point is the rapidity of this process. Towards the third or fourth day no trace of the morbid processes is any longer to be distinguished in the parts previously affected.

ART. 68.—*On the Action of Arsenic on the Human System, especially in reference to its Use in Diseases of the Skin.*

By THOMAS HUNT, F.R.C.S., Surgeon to the Western Dispensary for Diseases of the Skin.

(*Journal of Cutaneous Medicine*, January.)

In answer to the question—How is arsenic to be used?—Mr. Hunt writes: 1st, it should be given in divided doses—three doses in twenty-four hours, simply to avoid an unnecessarily large dose. 2d, it should be diluted with pure water, or if the case require the influence of antimony, the vinum antimonii, say thirty-five minims, may be combined with five minims of the liquor arsenicalis, and this may be taken diluted three times a day. 3d, this dose should be taken with, or immediately *after*, a meal, in order that, being mixed with the patient's food, it may find a ready entrance into the blood, and that the bare possibility of its irritating the mucous membrane of the stomach or bowels may be avoided. Not that there is any danger of mischief, but the patient, aware that he is taking arsenic, may thus be disabused of all fanciful or imaginary suffering of this kind. 4th, it should be clearly understood that arsenic acts very slowly, and therefore it is best to begin with an average dose, say five minims of Fowler's solution, and this should be increased, not day by day, as was the practice thirty years ago, but two, three, or four weeks should be allowed to elapse before any necessity can exist for augmenting the dose. If during this time there should be set up an active or severe inflammation of the tunica conjunctiva in *both* eyes, the lower eyelid being swollen and showing on its lining membrane a horizontal streak of inflammation, then the medicine is not to be abandoned in a panic, but the dose may be reduced to four minims, and in a week or ten days the conjunctiva will be less inflamed; or, if not, a lotion of the liquor plumbi acetatis dilutus, or of cold black tea, will generally

suffice to relieve the investments of the globe of the eye, and even to remove the slight degree of ecchymosis which is sometimes seen in the sclerotic tunic. But during this week, if the patient has been properly prepared for the course, the disease of the skin will show some amendment; it will be shorn of its strength, and from this time the cure will be easy enough, although it may take many weeks, or even months, to effect it entirely. If it should be requisite that the course be continued for several months, the soles of the feet, and less frequently the palms of the hands, become more or less inflamed or rough, and very rarely slight vesications occur on the feet. These inconveniences must be borne patiently; they will only exist during the course. Sometimes, also, after a protracted course, the skin of those parts of the body which are covered by the dress assumes a dirt-brown, unwashed appearance, and under a lens presents fine scales. This also is an ephemeral appearance, somewhat annoying to females of delicate complexion, but not for a moment to be compared with the afflictive form of disease which requires arsenical treatment. Other symptoms are sometimes complained of; such as restless nights, hiccough, pains in the stomach and bowels, depression of spirits, and general nervousness. But all these, except the first, are mere mental impressions. They seldom or never occur in dispensary practice, when the patient knows nothing of the medicine he is taking. And, on the other hand, it is far more common for the patient to feel better and stronger under the course. The feet and legs become warmer in those cases in which the extremities are habitually cold; and nothing is more common than for patients to say, after a long course of this medicine, that *they have never felt so well in their lives.*

Hitherto we have supposed that the dose has been rather in excess. But it often happens that the reverse is the case, and that after a month's treatment the medicine shows no sign, and the disease remains *in statu quo.* It will now be necessary to increase the dose slightly, and perhaps repeatedly, not every day or every week, but about once in a month, nothing doubting that the effects will sooner or later appear.

Meanwhile it must not be forgotton that we are not dealing with a mere *machine.* The health of the patient must be closely watched, and the secretions carefully sustained. Above all, the bowels must not be allowed to act sluggishly. In many cases a full dose of calomel and compound colocynth pill will be required two or three times a week; and these doses are sometimes essential to the cure. If the legs, or feet, or abdomen become puffy or œdematous, the urine being scant and turbid, the case will not go on well until we have roused the kidneys to vigorous action by full doses of spiritus ætheris nitrici and acetate of potash, largely diluted with water, and accompanied with draughts of some aqueous fluid several times a day. This treatment is seldom required, but when it *is* necessary it must be adopted, or the case will become unmanageable.

In other cases there will be present an atonic diathesis, with pale upper lip or amenorrhœa. Here we must combine iron with the arsenic, taking care that our chemistry is not at fault. We may mix the vinum ferri with Fowler's solution, or the tinct. ferri sesquichloridi may be combined with the liquor arsenici chloridi, taking care that the national Pharmacopœia does not lead us into error, of which there is no small danger.[1]

It is never necessary, and rarely expedient, to exhibit triple compounds of arsenic, such as Donovan's solution, a very active but most unmanageable pre-

[1] The liquor arsenici chloridi of the London Pharmacopœia (De Valangin's solution) is little more than one-third of the strength of Fowler's solution (liq. arsenicalis). And this preparation (liq. arsen. chloridi) was entirely omitted in the first edition of the national Pharmacopœia. But in the second edition the medicine was restored in a new formula, the liquor arsenici hydrochloricus, which is nearly thrice the strength of the old liq. arsen. chloridi! We do firmly believe that this change was not intended for any mischievous purpose; but if such *had* been the motive, nothing could have been more likely to have led to serious mistakes than this change. A prescription for any compound for arsenic and hydrochloric acid is no longer to be trusted to a druggist who is either ignorant or careless in the slightest degree.

paration. Neither mercury nor iodine should ever be given in combination with arsenic. Each of these three energetic and useful medicines has its value. Each acts in a different way, a way of its own, and each has its own peculiar power over disease. But mix them, and this distinctive power is buried, not blended. According to the constitution of the patient, one or another of these remedies has the upper hand, and you have no means of ascertaining if each or either is defective or excessive in the dose, nor could you alter it if you had.

Arsenic will be found, in a smaller or larger dose, to agree with every individual, provided it be properly prepared, and taken with the utmost punctuality. Young children bear it very well, and girls about the age of puberty generally bear and require larger doses than adults of either sex. A child of one year old will require about half the dose proper for an adult. Some patients lose flesh under the course; others fatten; but for the most part there is no very sensible change in this respect, nor indeed in any other, except that, mixed with iron, arsenic is about the best remedy we have for anæmic amenorrhœa and chlorosis.

Fowler's solution is slightly objectionable. And it is so on two grounds. First, if it be kept very long on the shelves of the druggist, the bottle in which it is contained becomes lined with a very delicate film of metallic arsenic. This must render the strength of the solution uncertain. The remedy is, to use the solution freshly prepared. There is another objection to this solution, namely, the red lavender tincture, which for some foolish reason is ordered to be mixed with it, often becomes stale and nauseous, and the patient says the arsenic makes him sick! The obvious remedy is to use the solution without the lavender.

Nor are the chlorides without objection. The distilled water (in which the arsenious acid is boiled with the hydrochloric acid) almost always contains the germs of a microscopic vegetation, which in warm weather becomes developed, and the solution loses its clearness, the microscope revealing the filaments and spores of a beautiful plant, which is rarely to be found in distilled water in which arsenic is not dissolved. The remedy is to keep the solution in a cool place, or so to exclude the distilled water from the atmosphere, as that the floating spores cannot be received by it. We are not aware that the solution is less effective for this cause, but patients like to see it clear. A very few drops of the tincture of perchloride of iron will keep it clear in almost any weather.

In speaking of the most suitable diet for patients suffering under chronic disease of the skin. Mr. Hunt says the artificial and unvarying rules of diet which some practitioners hold out to patient indiscriminately who are the subjects of skin disease are absolutely ridiculous. There are three conditions of system which require three very different kinds of diet, and one and the same precept applies to all of them. Let the patient take just what he likes best, and as much of it as is most agreeable, and if this does not suit his case, we will challenge the whole College of Physicians to give him better advice than that contained in his own natural instincts.

1. This rule may be observed when he is in good health. 2. When his disease is inflammatory, a cooling, unstimulating diet is best, and his own instinct will teach him this. 3. When he is anæmic and feeble, he will crave naturally a generous diet and stimulants, and they will do him good. Of course, we do not mean to encourage drunkenness or gluttony, or what is almost as bad, the assumption of a dietetic science above the teachings of nature. Some *few* subjects of inflammatory affections of the skin we have known to prefer a restricted vegetable diet wholly without stimulants; and we have found that they cannot be cured unless they follow this instinct. But in *all* cases, except in those of intemperate habits, the patient knows far better than the doctor what is best for him; and it is well for mankind that it is so.

Art. 69.—*On Cutaneous Angioneuroses.*

By Albert Eulenberg, Privatdocent in Berlin. Translated by W. D. Moore, M.D. Dub. et Cantab., M.R.I.A., L.K.Q.C.P.I.

(*Medical Press and Circular*, May 5.)

In an abstract of the above paper, given by Dr. Thilesen, in the *Norsk Magazin for Lægevidenskaben*, Christiania, xxii. Bind, 5 Hefte, the following *résumé* of the author's remarks, with reference to the essence and pathogenesis of herpes zoster, is given at page 330.

1. Zoster is a vaso-motor neurosis in the superficial cutaneous layers, an "*exanthematous angioneurosis.*"

2. The vessels (the arteries, in severe cases also the veins) in the affected portion of the skin are during the eruption in a state of dilatation, relaxation; their tonic innervation is diminished, or for the time interrupted.

3. The spinal ganglia are not, as Bärensprung assumes, the sole starting point of the affection, as no vaso-motor nerves take their origin from them, or are even contained in them, as moreover, zoster by no means occupies the whole seat of distribution of a spinal nerve, but follows at one time the anterior, at another the posterior branches, at another only some of them, or even the extreme ramifications of the latter.

4. Zoster has rather, so far as the trunk and extremities are concerned, its starting point in the vaso-motor nerve fibres, which partly pass from the sympathetic to the spinal nerves of the far side of the vertebral column, partly perhaps emerge directly from the spinal cord with the posterior and anterior roots.

5. Zoster facialis originates in the vaso-motor nerve fibres, which accompany the facialis and trigeminus, and with respect to the first proceed perhaps from the vagus, with respect to the latter from the sympathetic.

6. Zoster presents in many cases, especially in the face, the form of a purely primary vaso-motor neurosis. In the cases where disturbances of sensibility attend zoster either as premonitory or concomitant phenomena, the possibility of a reflex origin cannot be excluded. The centre for reflex action is then the ganglia of the sympathetic. In these cases we have to do either with a *reflex irritation* with consecutive relaxation by peripherally increased irritation of the sensory nerves, or with a *reflex paralysis* in consequence of peripherally lowered irritability.

7. The herpes occurring in acute febrile diseases, especially in the face, probably owes its origin to the action of the fever-exciting cause on the vaso-motor nerve system itself, since as the result of the primary tetanic contraction of the small peripheral arteries, a persistent paralytic dilatation of the same occurs.

Art. 70.—*Notes on Dermatalgia.*

By H. S. Purdon, M.D., L.R.C.P.E., Physician Belfast Dispensary for Diseases of the Skin.

(*Journal of Cutaneous Medicine*, April.)

Dermatalgia, or neuralgia of the skin, Dr. Purdon states, is often associated with hysteria, when it is observed most frequently affecting the left side of the body, as manifested by increased sensibility to touch. This complaint may also arise from exposure to draughts of cold air, rheumatism, or derangement of the uterine functions. Dermatalgia is generally limited to one spot; but in the hysterical variety, met with in females, the pain and increased sensibility to touch may be erratic, thus invading a large extent of surface.

In the variety of dermatalgia attributed to rheumatism, the affection is usually limited, in patches, which may become erythematous. The pain is often associated with vascular disturbance, such as partial congestion; and is some-

times periodic, corresponding to the distribution of a cutaneous nerve, probably due to an inflammatory condition. When the pain is fixed and permanent, the sufferings of the patient are sometimes very severe. This variety, according to Damon,[1] is due to a "morbid condition of the sensory apparatus of the skin, and which not only appears to be increased in dermatalgia, but there seems to be a veritable multiplication in the 'points endowed with tactile sensibility.'"[2] Dermatalgia is frequently observed attacking the head, or other parts covered with hair, such sites being favorite situations. In the hysterical variety the affection is said to be due to "spinal irritation;" and, according to Trousseau,[3] in neuralgia there is always tenderness, on pressure, over the spinous processes of the vertebræ, accompanied by cutaneous hyperæsthesia at the point of exit of the nerve-trunks.

According to Marcé,[4] severe and long-continued dermatalgia is one of the first symptoms of commencing myelitis. Dr. Purdon has observed this affection, neuralgia of the skin, confined to the hands, in a case of cerebro-spinal meningitis.

In some cases the bromide of potassium is useful; and oxide of zinc, in doses of two grains, thrice daily, is occasionally beneficial, especially in the hysterical variety. To relieve the pain, and procure sleep at night, the solution of the bimeconate of morphia is an admirable preparation, and locally either belladonna, or aconite and opium liniment, may be used.

Trousseau,[5] writing on cutaneous hyperæsthesia, informs us that the acuteness of the sensation varies according to the individual conditions, difficult to appreciate. It is dull in some, in others exalted. In those regions where the nerve-trunk, from being deep-seated, becomes superficial, as in the case of the external popliteal, and the internal saphenous nerves, the track of the painful nerve may be followed with the tip of the finger, as far as its cutaneous expansion. In the case of intercostal nerves the pain spreads over a considerable area, instead of being circumscribed. These nerves, at their exit, break up immediately into numerous branches.

Art. 71.—*The Treatment of Ichthyosis.*

By M. Lailler.

(*Annales de Dermatologie*, No. II., 1869; and *the Practitioner*, March.)

In a very able paper on the varieties and treatment of this affection, M. Lailler fully confirms M. Demarquay's opinion of the great value of glycerine in these affections. Glycerine has, he says, many advantages over the fatty preparations; it does not stain, it is readily miscible with water, and hence, when required, can be easily removed by simply washing. Instead of drying when exposed to the air on the skin, it absorbs the atmospheric vapor and keeps the tissue supple and moist; it does not evaporate, its removal being effected by rubbing against clothing, &c.; it does not turn sour when of good quality; it produces no irritation in squamous affections. The mode of treatment is this: The patient is well washed with soap and water three times a week in order to remove the epidermic scales; he is then anointed with a mixture of the glycerinum of starch of the codex, with from 10 to 100 parts of laurel-water. Internal treatment in this affection is, according to the author, absolutely useless.

---

[1] *On Neuroses of the Skin*, p. 8

[2] *See* Axenfeld *Des Nervoses*, Paris, 1864, p. 235.

[3] *Clinical Medicine*, translated by Dr. V. Bazire, vol. ii. 481.

[4] *Des Altérations de la Sensibilité*, p. 14.

[5] *Clinical Medicine*, translated by Dr. V. Bazire, vol. ii. 481.

Art. 72.—*On the Oleum Sabinæ in Alopecia Pityrodes.*

By Dr. Pincus.

(*Virchow's Archiv*, xliii., 1868; *Schmidt's Jahrbücher*, No. 1, 1869.)

Dr. Pincus has made experiments with certain agents in order to determine which might be fitted for modifying the growth of the hair, and thence derived the following results:—

1. Certain substances, as arsenic, veratria, cantharides, and sabina, when applied to the hair, render it brittle. Strong spirit does not act in this way; and carbonate of soda also, when applied in an aqueous solution, leaves the hair unaffected.

2. Inflammation of the hair follicle and of the surrounding parts results in a slower growth of hair. This slow growth continues for several months after inflammation has ceased, and the hair formed during this period does not possess its normal consistency. An increase of the typical duration of the life of hair seems to follow together with the slowness of growth.

3. Oleum sabinæ exerts a peculiar action upon the growth of hair: the rapidity of this is lessened, and the typical duration of its life is prolonged.

Dr. Pincus used the oleum sabinæ (from 5 to 30 drops to 1 ounce of spirit) on eleven patients suffering from alopecia pityrodes in its second stage. The oil was rubbed into the head at night, and also applied, by meads of a saturated compress covered by oil skin. Under this treatment the daily loss of hair was considerably diminished, and this good result persisted for two or three weeks after the cessation of the treatment. The most satisfactory results, next to those from oleum sabinæ, were observed after the application of tannin to hairy regions—four scruples of tannin to one ounce of lard. The favorable action of this astringent persisted from four to eight days after the application had been discontinued. To sabina it may be objected that its intolerable smell will often necessitate the discontinuance of its use, that it renders the hair dry and fragile, and that the skin and hair, especially with blondes, becomes discolored. In the first stage of alopecia carbonate of soda acts as a very efficacious remedy when applied as a weak solution, which can be rubbed into the scalp without producing redness. This agent also causes a disagreeable discoloration of the hair.

SECT. III.—FORENSIC MEDICINE.

Art. 73.—*An Antidote to Snake Poison.*

(*Pharmaceutical Journal*, March.)

We have received from a correspondent, recently arrived in this country from Australia, an account of Professor Halford's experiments on animals, with the view of discovering an agent which should avert the poisonous effects of the bites of venomous snakes. The subject has recently attracted a large amount of attention in that country, owing to the Professor having employed his remedy—a solution of ammonia injected into the veins—with success in the case of a man exhibiting all the symptoms of snake-poisoning in a dangerous degree. We take our account from the *Lancet* of Jan. 30th. A man was bitten by a venomous snake, which he had taken into his hands, supposing it to be dead. Not long afterwards he became drowsy, and mentioned the occurrence to one of his mates. The latter immediately set about procuring medical assistance, but by the time it arrived the man was comatose, and his lower extremities paralyzed. Galvanism and other usual remedies were applied, but without effect. In this extremity the medical man first called in caused Dr. Halford to be telegraphed for. The case was the first opportunity he had had of applying his new treatment to a human being, and he at first felt some hesitation in resorting to it. An incision

however, was made through the skin, exposing the superficial radial vein, and the point of the syringe being introduced into the vein, the injection (of ammonia) was completed. The beneficial effect was immediate. From an almost pulseless state, and from a stupor verging on death, the patient speedily became conscious. He has been steadily recovering since, and he is now reported to be nearly well. Whether the earlier treatment in any way contributed to the cure cannot, perhaps, be certainly known, but there appears to be little doubt —medical men entertain none—that the case must have ended fatally but for Professor Halford's treatment. We require, of course, some further cases before the merit of the discovery can be determined. Ammonia is not a new remedy for snake-bites, but Dr. Halford has the credit unquestionably of having applied it in a direct way by injection into the blood, so that its effects should be immediate and general. Its application in this way could only be safe in skilled hands. The discovery was not fortuitous, but resulted from a consideration of the microscopical alterations which he found taking place in the blood-vessels of animals subjected to the snake-poison. It is only right to add, however, that the observations of D. Fayrer and others have failed to verify the statements made by Dr. Halford on the altered condition of the blood-corpuscles. We learn from a letter which Dr. Halford addressed to the *Melbourne Argus* that he had previously instituted a series of experiments on the lower animals, and he publishes five of them which he performed on dogs. In four instances the treatment was successful. To carry out the treatment, a solution of ammonia —of the strength of one part of strongest liquor ammoniæ to two parts of distilled water—and an ordinary hypodermic syringe are required. The ammonia is thrown directly, but gradually, into the blood by puncturing any superficial vein, and may be repeated as its beneficial operation ceases.

With reference to the above, "a late resident in India" observes (*Times*, Feb. 1) that the attention of Indian residents is not needed, as the Bombay Government, upwards of six years since, ordered the following remedy, with directions for its use, to be kept at every police station throughout the Presidency; "a late resident in India" thinks that instead of having to apply to a surgeon to inject the liquor into the veins, this remedy, which is given internally, can be applied by any one, and, in his opinion, is equally efficacious.

Liquor Ammoniæ Fortis for Snake-Bites.—Doses: For an adult, 35 drops in 4½ tolas of water (a wineglassful); 12 to 15 years old, 20 to 25 drops in 2½ ditto; 8 to 12 years old, 15 to 20 drops in 2 ditto; 4 to 8 years old, 10 to 15 drops in 1½ ditto; infants to 4 years old, 3 to 10 drops in 1½ ditto.

Art. 74.—*The Treatment of Snake-Bites.*

By Dr. Berncastle.

(*Australian Medical Gazette*, February 27.)

From a very large field of observation in New South Wales, extending over ten years, during which time Dr. Berncastle has paid particular attention to investigating this subject, where he had great facilities for doing so—having collected about two hundred cases of cures, or an average of twenty a year, which have come more or less under his notice from reliable medical authorities, some of which he has treated himself, he is enabled to lay it down as an axiom that no snake in Australia is equal to killing a man who, as soon as he is bitten, adopts the three following rules:—

1st. Pull up with the fingers the part bitten, and cut out immediately a piece of the flesh as large as a sixpence with a sharp penknife.

2d. Lie down on a sofa in the open air until quite recovered.

3d. Get a bottle of brandy, or any other spirits, immediately, and drink a wineglassful of it pure, without water, every quarter of an hour, until cured, or signs of intoxication begin to appear, which will be the proof that the poison is overcome, and the cure effected.

There can be no objection to sucking the wound and placing a ligature above it, to prevent absorption; but if the part is cut out at once, there is nothing to

suck, nothing to be absorbed; and the one being done, nullifies the utility of the other two, and simplifies the treatment. Scarifying the bite is bad, as it still leaves the poison there, and even quickens its absorption by exposing it to a larger surface of blood, which is not at all inclined to flow after a bite, and therefore no fear of hemorrhage need exist after cutting out the part. The blood, in scarifying, does not wash the poison away, but passes over it, leaving it exactly where it was first deposited by the fang. Cutting out the infected part thus does away with sucking, ligature, scarifying, and the necessity of applying any antidote to the bite, which last is simply an absurdity, as from the skin tightening over the puncture immediately it has been made, absolutely prevents any liquid reaching the virus at all; and if it did, nothing but aqua-fortis or potassa fusa would be of any use, as we have no proof of any milder fluids having the power to decompose effectually the snake virus.

With regard to the injection of ammonia into a vein, which has of late occupied public attention, Dr. Berncastle says, that the remedy is worse than the disease, and that if the bite could not kill a man, he would have a very fair prospect of being killed by such a dangerous and useless proceeding. If ammonia is to be introduced into the system, it can be done much quicker and in much larger quantities by the mouth, when it can be repeated every few minutes, than by the complicated, dangerous process of opening a vein; to do what? to throw into the circulation a few drops of ammonia, with the almost certain risk of phlebitis, or of death from air getting into the vein, which is more likely to occur than not.

Orfila, the greatest medico-legalist of the French school, says, in his lectures: "The experiments on the injection of ammonia into the veins were not attended with the results expected from it both by himself and others, the animals experimented on dying from convulsions of a more or less tetanic character, or from subsequent inflammation of the veins. The injection of this substance into the veins offers no advantage over giving it by the mouth, and its use by injection is attended by a danger of such an inconceivable character, that only a fool or a drunkard would employ it."

ART. 75.—*Carbolic Acid a Cure for the Bites of Venomous Snakes.*

(*Quarterly Journal of Science*, January.)

The value of carbolic acid as a cure for the bites of venomous snakes has been made public by Dr. J. W. Hood, B.Sc., of Melbourne. He writes: "I have long entertained the opinion that carbolic acid, taken internally, and used as a caustic to the wound, would be found to be beneficial, and perhaps a specific cure. That I am right to a certain extent is proved by the fact that a friend of mine, a medical man living at Warrnambool, Dr. Boyd, successfully treated two cases of snake-bite with carbolic acid. I am not aware of more particulars than that the first case was a young lad bitten by a tiger-snake, the most venomous these colonies produce, and Dr. Boyd, six hours after the boy was bitten, administered ten drops of pure acid in brandy and water every few minutes. The effect was magical—from a pallid countenance, slow pulse, and semi-comatose condition, the patient rallied to a bright expression, ruddy glow, and quick pulse, and the recovery, though slow, was continuous and certain."

ART. 76.—*The Physiological Effect of Snake-Bite.*

By JOSEPH JONES, M.D., New Orleans.

(*Quarterly Journal of Science*, January.)

Dr. Jones has made some interesting observations on the effects of snake-bite. He used the American snake called the copperhead, and subjected several dogs, at various times, to its bite. In some cases the dogs died, in others they recovered. In all cases, Dr. Jones observed carefully the microscopical condition of the blood, and in cases of death made post-mortem examinations. Dr.

Jones observes in one case: "The blood from the swollen infiltrated cellular structures of the head and nose, where the snake inflicted the severest bite, presented a peculiar appearance; thousands of small acicular crystals were mingled with the altered blood-corpuscles, and as the bloody serum and effused blood dried, the blood-corpuscles seemed to be transformed into crystalline masses shooting out into crystals of hæmatin (hæmato-crystallin?) in all directions. The bloodvessels of the brain were filled with gelatinous coagulable blood, which presented altered blood-corpuscles and acicular crystals." Dr. Halford, about two years since, figured and described in the *Quarterly Journal of Microscopical Science*, the microscopic appearance of the blood of a dog killed by snake-bite. He particularly drew attention to the enormous increase in the number of white corpuscles in the blood. Dr. Joseph Jones concludes that the special toxic effect of the poison of the snake is due to its destructive effects on the red blood-corpuscle. Mr. Frank Buckland, in a recent note on this subject in his highly interesting journal *Land and Water*, says that the snake's poison seems to "curdle" the blood. It may very well be questioned how far it is right to attribute this condition of the blood to the direct *action* of the snake's poison. Should we attribute the buffy coat of the blood of a fever patient to the *direct* action of the fever-poison, or the increase of white corpuscles after bloodletting to some specific poison in the lancet?

Art. 17.—*Morbus Saturninus* (*Lead Poisoning*).

By William Frank-Smith, M.B. Lond., F. C. S., Lecturer on Medicine at the Sheffield School of Medicine.

(*The Lancet*, May 29.)

Among the file-cutters of Sheffield, Dr. Frank-Smith has noticed one or two points worthy of remark: (*a*) As to the mode in which the lead enters the system. (*b*) As to certain rarer symptoms of the disease. (*c*) As to the elimination of the *materies morbi*.

(*a*) *As to the mode of ingress.*—As is well known, in the file trade a small leaden anvil or bed, on which the file is held while being cut, is the source of the poison. The author has reason to believe that it is almost entirely through the skin of the hands that the lead penetrates. The file-cutters generally wear the nails long, especially the thumb nail of the left hand, which holds the chisel and is in constant contact with the lead. Behind these appendages a large quantity of black dirt accumulates. Dr. Frank-Smith collected some of this from several men, and had no difficulty in chemically detecting lead. Again: having heard of the use of sulphuretted baths, the author employed a solution of potassium sulphide, applied with lint and gutta-percha like a water-dressing. In several cases the skin of the hand became dyed with the lead sulphide. In several cases also in which this local treatment had been continued many weeks, it was very curious to observe that while the *old nail was dyed black or deep brown, the new nail near the matrix had its natural white color.*

(*b*) *As to certain symptoms.*—(1) Lead kidney: Dr. Frank-Smith has short notes of two cases in which a fugitive albuminuria was detected. In these cases palsy was the prevailing symptom. They were chronic cases with evidences of an unusually high degree of plumbic saturation. (2) Neuralgia: Dr. Frank-Smith has notes of ten cases of plumbic neuralgia. Of these, in seven the pain was confined to the left thumb and hand; in two the crural nerve and the patellar plexus were affected very severely; in one the pain was over the frontal nerve.

(*c*) *As to elimination.*—When the author commenced practice in Sheffield he employed the iodide of potassium as an eliminative, and while employing it made a somewhat remarkable observation, which has been since confirmed by Dr. Hilton Fagge. A man came under his care with severe lead palsy. On examining his mouth he was surprised to find the lead line absent; there was no trace of it, though he looked carefully with a good lens. The patient was placed under the iodide treatment—doses, ten grains three times a day. In the

course of a week or two little arches of black puncta were seen over the roots of the teeth, and in the course of a few more days the blue line was well marked, disappearing again before he left the hospital, about six weeks after his admission.

Dr. J. C. Hall has mentioned this case in his paper in the *St. George's Hospital Reports*. Dr. Hall, who has had very extensive experience in these cases, employs a mixture containing sulphuric acid and sulphate of magnesia; and after careful comparison of the results of the sulphuric and iodide treatment, Dr. Frank-Smith has now no doubt as to the superiority of the former.

The mixture which the author employs, and which acts with remarkable celerity and certainty, is as follows: Sulphate of quinine, sulphate of iron, of each one grain; strychnia, thirty-sixth of a grain; dilute sulphuric acid, five minims; sulphate of magnesia, one drachm; water, one ounce: three times a day.

ART. 78.—*The Ordeal Poison-nut of Madagascar.*

(*Quarterly Journal of Science*, January.)

Dr. Bennett, of Sydney, writes an account of this tree in the *Journal of Botany*. Specimens of it have been naturalized in New South Wales, and in the Botanical Gardens at Sydney there is a very fine tree of it, which somehow or other obtains a mysterious sort of respect from the visitors to the gardens, who, although they do not hesitate to gather from other flowers and shrubs, stand in awe of the Ordeal-tree. The flowers are very fragrant, of a crimson color, and appear in November and December. The plant belongs to the natural order *Apocynaceæ*, and its native name is *Tanghin*—whence *Tanghinia*. The fruit is of the size of a hen's egg, containing a hard stone or nut, the kernel of which is white, of a bitter taste, and has remarkable poisonous properties. The poison of the Ordeal-nut acts *directly* upon the heart and muscles. When used by the natives as a detecter of crime, the kernel is pounded and administered to the supposed criminal. Frequently sickness is caused, and the accused then escapes. If not, the poison is rapidly absorbed, and death ensues. A difference of color is said to exist between those kernels which produce only vomiting and those which produce death; and the friends of an accused person will stand by and object to certain nuts being used. The officers are said to administer these two varieties in a partial way; but it is not very certain that they can really discriminate between the virulent and less active kernels. Dr. Bennett suggests that there might be two species of *Tanghinia* existing in Madagascar, differing in the intensity of their poisonous power. The milky juice of the *T. Manghas* is said to be used as a purgative, and according to Rumphius, the natives boil and eat the leaves mixed with other pot-herbs, which thus act as a gentle laxative. The bark is also used in Java and Amboyna as a familiar cathartic, the action of which is said to be very similar to that of senna. Manghas is the name given to the tree in its native country.

ART. 79.—*Antidote to Carbolic Acid.*

(*Medical Times and Gazette*, March 27.)

Messrs. Calvert wish to make known the fact that sweet oil or castor oil in large quantity is the best antidote to carbolic acid, when it has been swallowed in poisonous doses.

ART. 80.—*Detection of Strychnia in Poisoning Cases.*

By M. M. CLOETTA.

(*British Medical Journal*, February 27.)

To detect the presence of strychnine in cases of poisoning, M. Cloetta counsels the following treatment: Any albumen which may be present in the liquid is first removed, subacetate of lead added, and the liquid filtered; the

excess of lead is removed by sulphuretted hydrogen, another filtration made, and the filtrate evaporated to dryness. The residue thus obtained is left in contact with ammonia for twenty-four hours, then agitated with double its volume of chloroform, and the chloroformic solution evaporated; this residue is dissolved in two cubic centimetres of water containing pure nitric acid, the solution filtered, and to the filtrate a drop of solution of bichromate of potash added. At the end of a few days crystals of chromate of strychnine appear, in which the chemical characters of strychnine may be recognized. M. Cloetta affirms that by this process he has been enabled to prove the presence of one-twentieth grain of strychnine in 650 cubic centimetres of urine.

ART. 81.—*A Case of Poisoning by Stramonium, and novel way resorted to to produce Vomiting.*

By J. J. HILLARY, Uxbridge, Licentiate Medical Board.

(*Dominion Medical Journal*, November, 1868.)

The following case is related by Mr. Hillary:—

"On the evening of the 20th September I was sent for to see a man, J. P., aged forty, whom the messenger stated had taken a teacupful of herb-tea, made from an herb sent by a friend of his and recommended as a cure for asthma, to which he was subject. About five minutes after he had taken it he became 'wild, and didn't know any one.' When I got to the house (in about ten minutes) I found him seated in a chair, leaning forward on his knees, shivering, staring wildly, countenance bathed in perspiration, pupils largely dilated, talking vaguely, and perfectly unconscious of surrounding objects, pulse 90 and full, hands and arms convulsed every few moments, legs unable to support his body, and dragged after him when we tried to get him to walk.

"On examination the herb proved to be datura stramonium. The first thing to be done was an emetic. Mixed half a drachm sul. zinci in one ounce water, and tried to get him to swallow it, but he either could not or would not, although we held him and forced it into his mouth, holding his nose at the same time. As there was no stomach-pump to be got, I took a No. 12 gum elastic catheter, forced open his mouth, passed it down the œsophagus, and having ready a solution of sul. zinci, I took it into my mouth and squirted through the catheter into the stomach. In about ten minutes he vomited freely, throwing up a quantity of stuff smelling strongly of the 'herb-tea.' He remained in a state of stupor, with the convulsive movement of the arms, for about twelve hours. then fell asleep for six hours, and awoke sensible, but feeling 'very queer,' and complaining of his throat being sore and a difficulty in swallowing. His pupils continued dilated for several days, but when last I saw him he was quite recovered and very grateful."

ART. 82.—*Case of Poisoning by Arsenic externally applied.*

By THOMAS GRAHAM, M.D., Surgeon to the Infirmary, Paisley.

(*Glasgow Medical Journal*, November, 1868.)

Cases of poisoning by the external application of arsenic are very rarely brought under the cognizance of the public prosecutor. Having been engaged as a witness for the Crown in such a case, Dr. Graham is enabled to record the facts, which are of great importance in a medico-legal aspect:—

At the Autumn Circuit Court, in Glasgow, a man named Alexander Paterson, originally a gardener, then a shoemaker, who, for twenty years partially, and for the last eight years exclusively, has devoted his time to the cure of cancer, asthma, &c., was charged with the crime of culpable homicide, in as far as he had undertaken, "culpably and recklessly," to prescribe for and treat, medically or surgically, the now deceased Mrs. L., who was at the time suffering under chronic inflammation of the right breast, by applying to the breast, after blistering, an ointment containing arsenic, on various occasions between the

21st and 27th of May, so that a quantity of arsenic was absorbed into the system of the said Mrs. L., and she died on the 27th May in consequence, and was thus "culpably bereaved of life by the said Alexander Paterson." After trial, the jury found the prisoner guilty as libelled, but recommended him to the leniency of the court. He was sentenced to four months' imprisonment. The facts are these:—

Mrs. L., aged thirty-nine, married fifteen years, and mother of eight children, weaned her youngest child, aged about twenty-two months, in March last. Her constitution was debilitated by over-lactation. Immediately after weaning her child she had a "weed," accompanied by fixed pain and induration of the right breast. Poultices were applied for some weeks, and about the beginning of May two punctures with a lancet were made in the indurated part of the breast; a small quantity of bloody pus flowed from the punctures; poultices were continued; the induration was not diminished. The patient had been reading a description of cancer in some popular work on Domestic Medicine, and she became convinced that the pain she felt in her breast was the same as that described in the book as indicative of cancer. Her husband, who had heard of several persons having been cured of cancer by Alexander Paterson, called him in to see his wife. Paterson stated that the tumor was cancerous, and the case was committed to his care. The treatment was commenced by removing the cuticle from the indurated part of the breast by a blister, the raw surface was then dressed with an ointment, smeared upon a piece of calico of exactly the same size. The first application was on Thursday, the 21st of May, and was immediately followed by severe burning pain in the breast. Violent headache, thirst, sickness, and occasional retching; numbness in the arms and legs, sleeplessness and loss of appetite supervened in a short time. The ointment was applied daily till Monday, the 25th, when Paterson again saw the patient, examined the breast, and remarked that she was doing very well. He had given directions that should vomiting occur, or the pain in the breast become very severe, a poultice was to be applied. Shortly after his visit on the 25th, the pain in the breast became intolerable; faintishness and palpitation of the heart were complained of, and a poultice was applied to the breast over the ointment. The pain was alleviated, but the constitutional symptoms continued. Inflammatory action extended from the breast to the shoulder and arm. There was no fresh application on Tuesday the 26th. On the evening of that day patient complained of a severe pain in the belly, which was somewhat relieved by a sinapism. Next morning she said she never could survive such another night's suffering. On Wednesday, the 27th, the points of the sore not sloughing were smeared with ointment, applied by the finger, and the cloth, which had been applied on the 25th, was replaced. About two o'clock, afternoon, patient was seized with a kind of fit, with lividity of the face, foaming at the mouth, and moaning, to use the husband's expression, like "a half-felled cow." She continued unconscious for several minutes, and on regaining consciousness, said she had been in a queer place, that she felt, as it were, a dart go through her, that she then became insensible, and had no further recollection of what happened to her during the fit. A poultice was again applied, also over the ointment, and an enema administered. During the afternoon patient expressed herself as feeling much better than she had done since the commencement of the treatment, took more food, and with greater appetite than she had experienced for weeks, and altogether was very hopeful that her pains would soon be over, and her recovery certain. Between nine and ten o'clock the same evening she suddenly said, "There it is again," went off in a fit, and died immediately. Thirst had continued to increase during the whole course of the treatment. Palpitation of the heart had been persistent from the 25th. The bowels had been constipated.

Post mortem Appearances.—The left breast was large and flaccid; the right breast was larger and firmer, and the central portion indurated. When pressed, each breast emitted a quantity of thick yellowish milk. The right breast presented an oval-shaped excoriated surface above the nipple, measuring three and a half inches by three inches, ulcerated in several parts, and mostly dark and sloughy in appearance. The excoriated surface was partly covered by a piece of calico, smeared with pinkish ointment, and retained in position by strips of

adhesive plaster. On bisection, the substance under the excoriated surface was found intensely reddened to the depth of half an inch. The glandular structure above the nipple was indurated, and the meshes firm and fibrous; at the lower part was a small cavity containing glairy matter and pus cells.

The left lung was congested, there was effusion into the right pleural cavity, and the right lung was congested and œdematous. There was half an ounce of serous fluid in the pericardium. The right ventricle and auricle were filled by coagulated blood and a fibrinous clot. The left auricle and ventricle were empty. The liver was normal in size but friable, and attached by recent fibrinous bands to the hepatic flexure of the colon. The stomach contained an ounce of food, in a state of emulsion, mixed with mucus. The mucous membrane of the cardiac orifice was highly congested and discolored by extravasation of blood, and the discoloration extended in patches over the greater part of the larger curvature of the stomach. The duodenum contained digested food, and like the stomach presented numerous ecchymosed patches. The spleen was soft and friable. The kidneys and bladder were healthy. The brain, with the exception of a little sub-arachnoid effusion, was healthy.

On chemical analysis, arsenic was found in the liver, kidneys, and coats of the small intestine, and in the contents of the intestine, but not in the stomach, spleen, or blood. The dressing found attached to the breast, at the post-mortem examination, contained rather more than four and a half grains of arsenic. The ointment used contained forty-nine per cent., nearly half its weight of arsenic.

No trace of malignant disease was found in the affected mamma.

Art. 83.—*On Poisoning by Lobelia.*

By Charles Meymott Tidy, M.B., M.S., Joint Lecturer on Chemistry at the London Hospital.

(*Medical Press and Circular*, February 3.)

There is no form of quackery, Dr. Tidy writes, more terrible and serious in its results than what is ordinarily termed "Coffinism." A name (ominous indeed!) derived from the founder of the system, a "Dr. Coffin," whose patients are to be found in no small numbers amongst our poorer classes, and whose income must be almost entirely derived from their hard-won earnings. But Coffinism deals with no innocent or harmless drugs; nor is it satisfied with any innocent or harmless doses. Starting with their pet, though absurd theory, that "Heat is life; the want of sufficient heat, disease; and cold is death," they administer, with no cautious or measured hand, monstrous doses of cayenne pepper and lobelia to restore *healthy action*, or, what is the same thing to them, *warmth*, to a diseased and broken-down system.

Within a very short time Dr. Tidy has had two cases of death come before him from, he believes, the absurd practices of these less practitioners.

The lobelia inflata (Indian tobacco) is a native of North America. Its poisonous qualities were first noticed by its effects on cattle that had accidentally eaten it. Many eminent physicians in the United States have from time to time studied its action. It has a somewhat nauseous and irritating smell, and a burning acrid taste, somewhat resembling tobacco. The dried herb, as imported, is of a yellowish green color, and is usually prepared by the Shaking Quakers of New Lebanon (Pareira). It contains a volatile oil, which, when distilled with water, imparts to the water the smell and acrid taste of the plant; also an acid which has been termed lobelic acid; and lastly, the active principle of the plant that has received the name of lobelina, but about which little is positively known.

Although it was not introduced into England prior to 1829, when Dr. Reece proposed it as a specific in asthma, it had become a favorite quack medicine in America as early as 1800. In the year 1809 a man of the name of Samuel Thompson was tried and convicted of poisoning a man with it. Now, lobelia is a poison, not in any way singular in this respect, that is frequently an antidote to itself. And very fortunate indeed is it for many patients that it proves so.

In giving it to animals, Dr. Tidy has found in many cases such violent vomiting produced that the poison must have been entirely got rid of, for they often recovered after most severe symptoms. In one case, however, in which he gave a small terrier a drachm of the powdered leaves and seeds which were retained, death resulted in about twenty-eight hours and a half.

So long, then, as vomiting is produced, all goes well, but when this becomes impossible, by reason perhaps of prostration of the system by disease or old age, or, the reverse of this, its administration to infants and very young children, then it is that vomiting is not induced, and, failing this, there is nothing left for the wretched patient but death.

ART. 84.—*To Prevent Death by Chloroform.*

(*Pacific Med. and Surg. Journ.;* and *Medical Record*, February 1.)

Experiments on inferior animals show that they may be restored from apparent death by chloroform by the continuous galvanic current, the negative pole being put in the mouth and the positive pole in the rectum. In some cases the animal was left for two minutes in a state of apparent death, and then restored.

ART. 85.—*On a New and Simple Method of inducing Artificial Respiration in Cases of Asphyxia from Drowning, Strangulation, Chloroform, Poisonous Gases, &c.*

By W. P. BAIN, M.D., Surgeon to the Poplar Hospital.

(*The Lancet*, December 19, 1868.)

The author speaks of the necessity of the best and simplest means being employed in the above cases immediately and on the spot, and rapidly runs over the several methods which have been adopted up to the present time for restoring animation. He mentions in terms of considerable praise the mode of compression and relaxation of the walls of the chest, especially by simply pressing down the sternum, showing that as much as 600 cubic inches of air may be exchanged in the lungs this way in a minute—a plan of which it has been the fashion to speak rather disparagingly. He explains Dr. Marshall Hall's mode, which, although a very inconvenient one, is also better than it has lately been represented to be.

To Dr. Silvester he gives high praise for his discovery of utilizing the muscles used in respiration, by drawing the arms over the head of the patient, thereby expanding the chest, and thus favoring inspiration. He finds fault with it, however, in its being a roundabout mode of accomplishing its purpose, and necessitating three separate movements.

The author then introduces a plan hitherto not known in this country, the invention of the celebrated Pacini, of Florence, which consists in placing the patient on his back on a table or bed, the operator having his abdomen against the head of the patient, placing his hands in the axillæ on the dorsal aspect, and then pulling the shoulders towards him with an upward movement at the same time. The shoulders are then relaxed, then the former movement, and so on alternately. In many cases operated on by this method the air makes a loud noise when it passes the larynx, as in snoring.

The author was so impressed with the excellence of this plan that he determined on his return from Italy to make experiments on it, as suggested to him by its illustrious inventor. He had not long, however, proceeded with these before he discovered two modes considerably superior, and throwing also somewhat in the shade the labors of Marshall Hall and Silvester. In experimenting on the dead subject he employed an India-rubber tube, one end of which was tied in the trachea, and the other communicated with a small spirometer, upon the principle of Hutchinson's, so that the passage of air to and fro, the lungs could be easily observed by means of a scale showing cubic inches. He found

that the simple process of raising the upper part of the thorax from the table by taking hold of the arms caused a considerable influx of air, varying with the angle that the arms made with the body. For instance, if the body were raised by the arms at an angle of 45° (towards the face), the inspiration would amount to, say twenty cubic inches. If the body were lifted by the arms in a vertical direction, the amount would be fifteen cubic inches, and if pulled up by the arms at an angle of 45° (towards the feet), the amount would be about ten cubic inches. But by the first of these modes a quantity of air considerably greater than by Hall's or Silvester's plan was generally obtained.

The best and most simple method, however, which the author has discovered is founded upon those of Silvester and Pacini. He simply places his fingers in the axillæ in their front aspect, with his thumbs over the outer ends of the clavicles, and draws, with a certain amount of power, the shoulders towards him. On relaxing his hold, the shoulders and chest return to their former position, and so on with alternate motion. In this case therefore there is only one movement to be effected instead of three, and he avoids the fatigue of having to bear the weight of the patient's arms as well, as is required by Dr. Silvester's method. It has the advantage also of being accomplished in a more rapid manner than any other plan. As far as the author's experiments have gone, the quantity of air inspired at each movement by this plan is about thirty to Dr. Silvester's twenty, and as the operation can be conducted with much greater rapidity, the author considers that at least twice the quantity of air can be inspired by this mode than by any other yet known; and he expresses a wish that a subject which is of such practical importance should be further investigated.

SECT. IV.—THERAPEUTICS.

ART. 86.—*General Principles of Neuro-Therapeutics.*

By JOHN CHAPMAN, M.D., M.R.C.P., Physician to the Farringdon Dispensary.

The following propositions, quoted from Dr. Chapman's work on *Diarrhœa and Cholera*, constitute a summary statement of the principles fully explained in his interesting and valuable *brochure on Sea-Sickness*:—

"1. That the chief function of the sympathetic nervous system consists in regulating the diameters of the bloodvessels throughout the body.

"2. That when the sympathetic ganglia are in a state of maximum hyperæmia the nervous effluence from them to the muscular coats of the arteries to which they are severally related stimulates them so excessively as to induce in them a condition of tonic spasm—a spasm so intense as to result in shutting off the blood altogether from a large proportion of the peripheral arteries.

"3. That when the sympathetic ganglia are in a state of maximum anæmia the nervous effluence from them to the muscular coats of the arteries to which they are severally related becomes so extremely feeble that a condition resembling paralysis is induced; the muscular coats of the arteries become consequently extremely relaxed; and as the blood flows in the direction of least resistance, the parts supplied by the arteries in question become suffused with blood to an excessive degree.

"4. That when the spinal cord is in a state of hyperæmia, cramps of the involuntary muscles surrounding the alimentary tube, cramps, or even convulsions of the voluntary muscles, an excess of glandular activity, and an excess of sensibility (hyperæsthesia) are likely to ensue.

"5. That every gland and glandular follicle in the body is under the control of one motor nerve (which I call the *positive motor*) emerging from the cerebro-spinal system, and distributed to its secreting cells in order to regulate its functional activity; and of another motor nerve (which I call the *negative*

motor) emerging from the sympathetic system, and distributed to its artery or arterial twig, in order to regulate its blood-supply.

"6. That in the same manner as glands are supplied with positive, as well as with negative motor nerves, so, there is reason to believe, every tissue of the body is thus supplied, and is thus placed and sustained in a state of elective affinity for the elements of the blood requisite for its nourishment and functions.

"7. That the sympathetic ganglia and the spinal cord can be rendered hyperæmic or anæmic, artificially, by means of heat, in the one case, and cold in the other, applied along the spine.

"8. That cold applied along the spine will subdue cramps, or excessive tension, of both voluntary and involuntary muscles, will lessen sensibility, will lessen secretion, and will increase the general circulation and bodily heat.

"9. That heat applied along the spine will (in some cases) induce cramps of both voluntary and involuntary muscles, will increase sensibility, will increase secretion, and will lessen the general circulation and bodily heat."

One of the most interesting proofs yet adduced of the power of the spinal ice-bag to increase the peripheral circulation is (Dr. Chapman states) that afforded in the shape of its indisputable effects on the eye. "I have been able," the author continues, "in several instances to improve vision to a very remarkable extent[1] by acting on the spine; and in October, 1864, having accidentally met at the Turkish bath Mr. Ernest Hart, whom I knew to be devoting himself especially to diseases of the eye, I communicated to him the result of my observations, and begged him to give the subject of the influence of cold and heat when applied to the cilio-spinal region on the circulation in the eye his special attention. He kindly promised to do so; and, in the *Lancet* of January 7th, 1865, he published a very remarkable case entitled, 'On a case of Amaurosis from Progressive Atrophy of the Optic Nerve with Epileptic Complications treated successfully by the application of Ice to the Spine.' The patient, a lady, thirty-three years of age, healthy until she was twenty, then began to suffer from frequent and sometimes intense headaches. When twenty-one she had three severe epileptic fits, two years after she had another, and gradually they became so frequent that at the time when the treatment in question began, 'the attacks recurred sometimes twice or thrice in a week, lasted for an hour or an hour and a half, and left her with a severe headache which prostrated her during the day.' Her sight gradually declined; 'and,' says Mr. Hart, 'when she came to me she could with difficulty read No. 10 of Giraud-Teulon's type. The ophthalmoscope showed palpable whiteness of the optic disks in both eyes. . . . . The pupils were semi-dilated, and did not contract fully under ophthalmoscopic examination. . . . . I could give no hope of cure. However, after a fortnight of temporizing without benefit I resolved to employ for her treatment the application of ice to the lower cervical and upper dorsal regions of the spine, which has been . . . . recommended by Dr. John Chapman as a means of increasing the afflux of blood through the agency of the sympathetic.' The ice-bag was applied during five weeks, generally three times a day, and for about half an hour each time. She had only three fits during this period, and they were comparatively slight. The remainder of the account I give in Mr. Hart's own words. 'That which most nearly touches the subject of my paper, however, is the great improvement which has occurred in her visual power. At the beginning of the treatment she could read no type smaller than No. 10 of Giraud-Teulon: she now reads No. 4 with ease. The pupils are no longer dilated, although they act sluggishly. But a point of great interest is, that the disks are now of a tint which may be pronounced natural; they are palely roseate. . . . . From a physiological point of view, this is remarkable as an example of visible regeneration, so to speak, of a nerve in process of wasting from disordered nutrition. Nothing else than the ophthalmoscope could have shown it; and nowhere but in the eye could it have been seen, for nowhere else is a living nerve subject to observation.'"

---

[1] See especially the Case of Epilepsy, with Defective Vision, &c., described at page 58 of my pamphlet on *Functional Diseases of Women.*

ART. 87.—*Therapeutics of Pain.*

By W. A. HAMMOND, M.D.

(*Canada Medical Journal*, December, 1868.)

Professor William A. Hammond, of Bellevue Medical College, New York, in his lecture on the above-named subject, reported in the *New York Medical Gazette*, appreciates the value of various drugs as follows :—

1. In nervous headaches.

Oxide of zinc is of great value: ordinary dose two grs. three times a day after meals: maximum dose five grs. It is best given in form of pills.

Nux vomica is preferable to strychnia. The dose is ¼ gr. after meals. If the patient is chlorotic, it is well to combine a grain of ferri redact. and ½ gr. sulph. of quinine.

Bismuth, in the form of subcarbonate, will often take the place of oxide of zinc. Dose, two grs. after each meal. Bismuth probably assists digestion more than any mineral tonic, and is of use when there is gastric disturbance.

Bromide of Potassium is serviceable when the nervous system has been irritated; when exhausted it does harm.

Bromide of Ammonium is similar to the brom. of potas. in its action; dose need not be so large. Dr. H. often uses both combined.

Opium and its preparations are rarely of value in this disorder. If used the hypodermic method is best.

Norcein was brought to the notice of the Academy of Medicine, Paris, a few years ago, by Claude Bernard. Dr. Hammond refers to the unfavorable notice of this article by Dr. Da Costa, but still thinks that given in large doses it has a decided hypnotic effect.

Phosphorus is very useful in all forms of nervous headache. It is difficult of administration, and leaves an unpleasant odor about the person. The phosphates do not produce the effects of phosphorus. The best results are obtained from phosphoric acid dilute, in doses of thirty minims largely diluted.

Arsenic, as a nerve tonic, stands next to zinc in value. Fowler's sol. has generally been used, but of late the arsenious acid has been given in doses of about $\frac{1}{40}$th of a grain; particularly in cases of hallucination dependent on exhaustion.

As to the value of *galvanism* there are two very diverse opinions : one that it is useless; the other that it is nearly a panacea. The truth lies probably on the middle ground. We cannot act directly upon the brain, to any considerable extent, by the *induced* current or by reflex action. Dr. H. advises always the *constant current;* being careful to avoid too great intensity lest amaurosis be produced.

2. In the treatment of *neuralgia.*

Belladonna, although at one time overlauded, is a very efficient drug. Dr. Hammond has not used atropia often, as the dose is difficult to graduate. The use of belladonna is chiefly to change the habits of the system. You may begin with doses of $\frac{1}{4}$th grain of the extract, and increase as necessary.

Hypophosphites are useful; may be given in doses of from ten to twenty grains. They act by setting free phosphorus in the stomach.

Hypodermic Injections of Morphia may be used during the paroxysm. In their use avoid the face; a good point is the inside of the arm.

Aconite is next in value. Simply rub the tincture upon the painful part until a pricking is felt. The action is often very powerful. Dr. H. once caused temporary paralysis of the arm in a lady by the too free application of the tincture.

Chloroform may be used externally, internally, or by inhalation not carried to insensibility. Repetition of inhalations may break up the paroxysm.

ART. 88.—*On the Diagnostic Value of the Ophthalmoscope in "Tubercular" Meningitis.*

By T. CLIFFORD ALLBUTT, M.A., M.D., Cantab. &c., Physician to the Leeds Infirmary.

(*The Lancet*, May 1.)

Dr. Allbutt thinks that the ophthalmoscope comes to our assistance, and gives us the same kind of help in detecting incipient or slight degrees of tubercular meningitis that the stethoscope gives us in detecting those incipient or slight degrees of ulcerative change in the lungs, which without it are beyond certain diagnosis. When a patient is seized with vomiting, headache, convulsions, and other symptoms of meningitis, and when at the same time, on examination with the ophthalmoscope, Dr. Allbutt finds congestion of the optic disk and retinal vessels, which is nearly always the case, then he has no hesitation in saying that the patient is suffering from meningitis at the base of the brain, and the autopsy proves the diagnosis to be correct.

ART. 89.—*On Auscultation of the Œsophagus applied to the Diagnosis of the Affections of this Organ.*

By Dr. C. W. HAMBURGER.

(*Medizinische Jahrbücher*, xv. Bd. 11 Heft, 1868; *Gazette Hebdomadaire*, No. 50, 1868.)

Dr. Hamburger wonders why the affections of the œsophagus have not been submitted to exploratory proceedings analogous to those which have acquired a remarkable precision in the diseases of the lungs, heart, and larynx. The diminished frequency of these affections would explain this neglect, if one were not aware how often the lesions of the œsophagus present at their commencement difficulties in diagnosis, without considering the lesions which may pass unperceived.

The actual elements of the diagnosis consist principally in pain, dysphagia, and exploration with sounds.

Pain gives but insufficient information for diagnostic purposes. Existing at times when there are no severe lesions of the œsophagus, and caused often by changes in the adjacent tissues, this symptom has merely a secondary value. Dysphagia, in addition to the very numerous independent causes of a lesion of the œsophagus, directs attention to this organ, but often leaves the diagnosis incomplete or doubtful.

Exploration with the sound affords more important characters, but if the instrument be rigid and the surgeon inexperienced, it is to be feared that the diagnosis will not be determined without the aid of some disaster; if the sound be too soft, the exploration may be rendered fruitless by existing diverticula; the results of the proceeding are difficult to interpret; in addition, but incomplete information will often be obtained.

Dr. Hamburger, in the first place, establishes the conditions of auscultation. In the neck the œsophagus is examined on the left side, behind the trachea and between the hyoid bone and the supra-clavicular region. In the chest the auscultation is made on the left side of the vertebral column from the first to the eighth dorsal vertebra, and immediately by the side of the spine. Auscultation is applied during the deglutition of a spoonful of water; alimentary boluses more or less solid are not serviceable.

In the normal condition of the œsophagus the signs afforded on auscultation are complex, and may be given in *résumé* as follows:—

The stethoscope being applied at the level of the hyoid bone during deglutition of a spoonful of fluid, a loud gurgling noise is heard; the water seems to pass forcibly into the ear of the observer. On auscultation of the œsophagus between

the cricoid cartilage and the eighth dorsal vertebra, deglutition is found to be accompanied with a noise analogous to that formed by a small fusiform body which is embraced by a contracted ring of œsophagus passing rapidly down the tube. The contractions of the œsophagus are made progressively and circularly upon the contained fluid, and produce a special bruit, an analysis of which allows one to mark the different periods of deglutition. The tone of this bruit is that of an easy gliding, and can be readily fixed in the memory. With some care the observer will succeed in distinguishing during deglutition, the tone or timbre, the form of the swallowed fluid bolus, the energy of the contractions of the œsophagus, the rapidity of the act of œsophageal deglutition, and the direction followed by the liquid mass. Each of these elements is modified when the œsophagus becomes the seat of lesions.

The tone may fail in part or completely; it will cease quickly in cases of rupture of the œsophagus or of a foreign body; a diverticulum or a contraction will produce an analogous effect.

Alterations in the quality of the tone or the timbre are numerous. Thus a rubbing sensation analogous to the pleural or pericardial rubbing will be experienced when the mucous membrane is no longer smooth, which may occur in cases of diphtheritic and croupy inflammation, in severe fevers, and exanthemata, when fibroid or polypoid formations exist, during an eruption of confluent small-pox, and with deep ulcers.

The tone becomes a blowing one with ruptures of the œsophagus, and sometimes also when a diverticulum exists with a narrow opening, or even during spasmodic contraction: the *bruit de froufrou* has often been observed on the detachment of a pseudo-membrane; the timbre is metallic in character when pneumothorax exists on the left side. The bruit of regurgitation is heard in œsophagism principally, and in cases of contraction, when the energy of the muscular tunic is maintained. The *bruit de râpe* is of great value, especially when it is perceived by auscultation; it indicates with the greatest precision the seat of the lesion. The other auditory characters present less interest, with the exception of the variations in the direction of the bruits, which depend upon regurgitation.

Regurgitation is produced in most cases under the following circumstances: The swallowed mass is arrested, but is then immediately thrown up and regurgitated, as in cases of foreign bodies, of œsophagism, and of commencing contraction; or, on the other hand, the period of arrest is longer and the swallowed mass is returned at a later period, varying in different cases from a few minutes to a whole day; a kind of rumination is then produced, and forms one of the best signs of œsophageal dilatation.

Regurgitation may be produced in another circumstance in which the stethoscopic signs alone enable one to make a ready diagnosis. This occurs when the food ascends along a part of the œsophagus, but does not reach the buccal cavity; regurgitation is then incomplete.

In a concluding section, Dr. Hamburger treats of the signs presented on auscultation by contraction of the œsophagus. These signs enable one to establish the diagnosis of three stages or three progressive degrees of contraction.

In the first stage, there is merely swelling of the mucous membrane, deglutition of the alimentary bolus is but slightly impaired; if fluid be swallowed, however, the small quantity of air which this forces towards the cardia during deglutition raises a portion of it and escapes upwards, producing at the same time one or more bubbles, which can be perceived only through auscultation; catheterism will not give any clear sign at this period.

With a more advanced degree, the second stage, the contraction is due to swelling of the mucous membrane, to the presence of a more or less abundant mucous exudation, and to the marked reflex contraction of the circular muscular fibres. At this stage, not only one or a few bubbles are heard, but a gurgling bruit. The dysphagia is now but slightly marked; it is the more important, however, to establish the diagnosis, since at this stage particularly one may apply with success external or general therapeutic means.

When the contraction is confirmed, and there is considerable diminution in the calibre, violent regurgitative bruits are produced, and finally some of the

more complex signs already mentioned. The diagnosis, it is true, can now be established by catheterism, and by noting the existence of dysphagia. But auscultation gives useful information concerning the form and the seat of a contraction and the existence of a dilatation, and also permits one to follow the results of the treatment.

Art. 90.—*Some of the Uses of Bismuth.*

By W. F. McNutt, M.D.

(*California Medical Gazette*, January, 1869; and *New York Medical Journal*, April.)

In a paper on this subject, Dr. W. F. McNutt, of San Francisco, remarks: "In organic disease of the heart, where the liver becomes congested, and the secretion of bile suppressed, sulphuretted hydrogen is generated from the decomposition of albuminous food. Every physician is familiar with the train of nervous symptoms that such patients exhibit—sleeplessness, restlessness, palpitation, pains, &c., and flatulence of the bowels; and he also finds that the symptoms are aggravated by opium, while blue mass, &c., is also mostly useless. Believing that these nervous symptoms are due mostly to the poisonous effects of sulphuretted hydrogen, I administer bismuth, and almost always succeed in quieting the patient. November 22d I was called to see a lady with valvular disease of the heart (the mitral), in consequence of which the lungs and portal circulation were congested. She had violent palpitation, was very nervous and restless, had been unable to sleep for several nights; had pain in the side, headache, and bowels flatulent and constipated, but passages very offensive. I administered bismuth freely, and on the 24th she reported herself as having had the best night's sleep that she had enjoyed for weeks, though a variety of medicines had been administered to her. I have a number of similar cases in my note-book.

"I believe that bismuth not only destroys the sulphuretted hydrogen present in the bowels, but is an antiseptic to albuminous matters, preventing their putrid decomposition. That bismuth destroys the sulphuretted hydrogen present in the bowels is proved by the fact that, if administered for a few hours in considerable quantity, the flatulence disappears; and if a dose of oil is given, the evacuations are as black as tar, where the evacuations were natural or clay colored before the bismuth was given. It is the chemical action of the gas upon the bismuth which gives the evacuations their black color. But a small portion of bismuth, when given in powder, and in doses of from gr. 5 to gr. 20, is dissolved in the stomach and absorbed. The remainder passes undissolved into the bowels, and while it may have some local anæsthetic action on the bowels as on the stomach, it will be comparatively inert unless there be sulphuretted hydrogen present.

"Its action on the sulphuretted hydrogen is more particularly demonstrated when given for chronic diarrhœa. Some have attributed to bismuth astringent, tonic, and sedative properties, on account of their success with it in chronic diarrhœa. Others have given it for the same disease without the slightest benefit, and consequently have denied that it has astringent, or sedative, or tonic properties. While the fact is, that in cases of diarrhœa that are caused or kept up by the poisonous effect of sulphuretted hydrogen, I have given bismuth, combined with a few grains of Dover's powder, with more real benefit to the disease than any drug I could administer. Opium alone is useless, or worse. Charcoal, by absorbing the gas, has been, next to bismuth, the most beneficial."

ART. 91.—*Intellectual Work and the Temperature of the Head.*

By J. S. LOMBARD, M.D.

(*Quarterly Journal of Science*, January.)

Dr. J. S. Lombard, by means of an exceedingly delicate thermo-electric apparatus, has made some highly interesting experiments on the influence of cerebral activity on the temperature of the head. He finds: 1st. That in the state of cerebral repose (during night) the temperature of the head varies very rapidly and frequently. 2d. The changes are very small, scarcely reaching the hundredth of a degree centigrade. 3d. In proportion as the activity of the brain increases, the temperature is found to rise. 4th. Any cause attracting the attention (a sound, the sight of an object or a person) produces an elevation of temperature, 5th. Very active intellectual work produces a much more marked elevation of temperature than in the preceding cases. It does not, however, exceed a twentieth of a degree centigrade. 6th. An emotion, or reading aloud anything of great interest, causes an elevation of temperature. It is not the movement of the heart or of the muscles which, under these circumstances causes a rise in the temperature of the head. 7th. During very arduous intellectual work, the temperature of the limb falls even as much as a quarter or half a degree centigrade; in fact, no doubt (but only in part), owing to the immobility of the body. 8th. It is in the region of the occipital protuberance that the elevation of temperature had its chief seat in the preceding experiments.

It will be interesting to consider the bearing of these phenomena on the Conservation of Force. It is apparently clear that intellectual activity—thought—is a force totally distinct from, although associated with the mode of motion known as "heat," for both, it appears, increase in activity simultaneously. More than this it were not prudent to say at present, but it appears that here we have the first approach to a better understanding between the relations of "mind and matter," a subject upon which so much has been said speculatively, and so little done experimentally.

ART. 92.—*A Visit to some of the German Spas: Teplitz.*

By J. M'CALL ANDERSON, M.D., Professor of Practice of Medicine in Anderson's University.

(*Glasgow Medical Journal*, May.)

The most fashionable of all the watering-places of Germany, writes Dr. Anderson, is Teplitz, which is reached by rail from Dresden in four hours.

The following are the principal diseases which are benefited by a course of the baths of Teplitz:—

1. *Gout and Rheumatism, and other joint affections* in the chronic stage. Around the joints inflammatory exudations are apt to take place, which interfere with their mobility, and it is towards the removal of these exudations that the baths are specially directed. To this end the douche and mud baths are particularly valuable. It need hardly be said that the waters have very little effect in correcting the morbid condition of the blood in gout and rheumatism; hence it is a common practice for patients to have a course of other mineral waters, such as those of Marienbad, Carlsbad, or Vichy, which are directed against the blood disorder, prior to using the baths of Teplitz for the removal of the immobility which results from bygone attacks.

2. *Painful nerve affections*, especially those occurring in connection with rheumatism, are likewise often moderated or removed.

3. *Wounds and ulcers, and the like*, are frequently cured by the baths, especially those which are associated with well marked exudations, while they favor

in a remarkable manner the separation and removal of bony sequestra and foreign bodies.

4. *Certain forms of paralysis* are sometimes moderated or removed by them, especially the rheumatic forms and those which arise from the pressure of exudations upon the nerves, the result of previous inflammatory attacks.

The baths are contraindicated in all cases of acute disease, and they must be used with caution in persons of plethoric habit, or who are liable to apoplexy or congestions. As a rule, the cooler baths should be taken at first, and the warmer ones substituted at a later period of the course, if the former agree and are inoperative. For the same reason the douche and mud baths should not be taken from the commencement.

The season at Teplitz is from June to August inclusive, the height of the season being in August, at which time a higher price is charged for the baths. and, there is such a run upon them that they are occupied from morning till night and require to be engaged in advance.

The climate of Teplitz is mild, and the neighborhood interesting as well as beautiful.

ART. 93.—*On the Administration of Food and Medicine by the Nose when they cannot be given by the Mouth.*

By Dr. ANDERSON MOXEY, M.D., M.R.C.P.

(*The Lancet*, March 20.)

Dr. Moxey recommends that in certain cases, and especially in the cases of obstinate lunatics, this mode of giving food and physic be employed. Having the patient kept motionless by two or three assistants, with the head perfectly still, and the chin slightly elevated, he thus proceeds: Introducing the end of a small Wedgewood funnel gently into one of the nostrils, he pours the liquid slowly into it from a cream-jug or sauce-boat, pausing every now and then to let the patient take a full inspiration, and not allowing the fluid to accumulate in the funnel. A determined patient will generally be able, in spite of the reflex act of swallowing which ensues as the liquid trinkles into the pharynx, to sputter a little of it out of his mouth. When this happens, Dr. Moxey pours the contents of the jug faster into the funnel, letting them accumulate in it so as to keep up a continuous series of acts of swallowing. In unusually troublesome cases he has also found it necessary to compress the other nostril, so as completely to obstruct all respiration through the nose. He considers that in all such cases a medical man should invariably administer the draught, as he alone can properly judge as to the extent to which it is necessary to interrupt nasal respiration, and of the number of acts of deglutition it is advisable to excite continuously.

ART. 94.—*On the Use of Ipecacuanha.*

By Dr. WEIGERSHEIM.

(*Schmidt's Jahrbücher der gesammten Medicin*, August 27, 1868; and *British and Foreign Medico-Chirurgical Review*, April.)

Dr. Weigersheim has shown that ipecacuanha root may be replaced by emetine, or even, in certain cases, by cold water, as employed in hydropathic practice. Warm water, drunk in moderate quantities, will often produce vomiting. Dr. Weigersheim also alludes to the fact that the smell of ipecacuanha often excites nausea, and that when mixed with atmospheric air it causes, when it is breathed, remarkable oppression of the respiratory organs, such as hoarseness, sneezing, spasm of the glottis, and even spitting of blood and asthma. He therefore proposes the employment of ipecacuanha in small doses. He mixed twelve centigrammes of the root with eight grammes of sugar (a centigramme is the hundredth part of a gramme, which is equivalent to about fifteen grains of English weight), and divides the powder into twelve parts, and orders one part to be taken in water every five minutes until vomiting ensues.

Nausea and even vomiting usually supervene after three or four powders are taken, but sometimes only after seven or twelve. If a powder is vomited immediately after being taken, another must be given at once. Dr. Weigersheim has applied this treatment with success as a preliminary remedy in those cases in which formerly every kind of emetic failed; and either by the continued use of the ipecacuanha or the subsequent administration of a full dose the desired result ensued. He also obtained favorable results from these small emetic doses in those cases of cholera in which an emetic was indicated.

ART. 95.—*On the Action of Tartar Emetic in small and long continued doses.*

By Dr. A. NÖBILING, of Munich.

(*Schmidt's Jahrbücher der gesammten Medicin*, November 4, 1868; and *British and Foreign Med.-Chirurgical Review*, April.)

The experiments made by Dr. Nöbiling on himself and on some of the lower animals relate not only to the operation of tartar emetic, but to that of each of its constituents, namely, tartaric acid, potash, and oxide of antimony. The experiments made on himself were by internal administration, and by injections into the subcutaneous areolar tissue and into the veins. The general results at which he arrived by these means were as follows: Tartar emetic in small doses, from a milligramme ($\frac{1}{10}\frac{1}{00}$ of 15 grains) upwards, gradually excites in healthy persons very disagreeable effects, as oppression and weight in the præcordia, giddiness in the head, irritation of mind, weakness of the limbs, feverish shivering, inclination to sleep, frequent, irregular, and full pulse, pale and sunken face, increased collection of mucus in the throat, and painful deglutition. After a longer use of the drug, there arise, together with loss of appetite and painful oppression in the stomach, short smarting pains in the bowels, frequent yawning, difficulty of breathing, and an unpleasant feeling of coldness on the skin of the trunk and on the extremities. The lower part of the body is extremely painful to the touch; the stools, which are at first normal, become gradually irregular, sometimes fluid, sometimes solid, but the urine is not much altered in its chemical characters. By a still longer use and gradually increasing doses of the tartar emetic all the phenomena are increased, the uneasiness is greater, the stools become thin and muco-bilious, the abdomen is swollen and very tender to the touch, the dulness of the hepatic region increased about a finger's breadth downwards, and this region is very painful on pressure, the heat of the skin is everywhere increased, and there is also itching. There is difficulty of swallowing and increased secretion of mucus. Dr. Nöbiling made a series of experiments on frogs, dogs, and rabbits, in order to ascertain the action of the separate constituents of tartar emetic, and for this purpose he compared the results obtained respectively from potassio-tartrate of antimony, ammonio-tartrate of antimony, and sodio-tartrate of antimony, and also from tartrate of potash and tartrate of soda. These experiments seem to prove that the potash acts upon the heart, causing depression of that organ, for it was found, among many other experiments, that while a small dose of potassio-tartrate of antimony caused death in a frog, the same dose of sodio-tartrate of antimony produced no effect. Dr. Nöbiling draws the following conclusions from his researches: 1. There are two independent modes of action in tartar emeric, one on the heart and the other on the intestinal canal. 2. The action of the potash is on the heart, and that of the antimony is on the intestines. 3. Potash has a direct paralyzing action upon the heart. 4. The tartaric acid is without any direct action upon the system. He goes on to observe that the effects on the heart and the pulse, and also on the liver, are due to the action of the potash, and that this is the active principle in causing death in fatal cases of poisoning by large doses of tartar emetic. He does not report favorably of the therapeutical employment of tartar emetic, which he thinks objectionable on account of the potash it contains, but he recommends the *ammonio tartrate of antimony* as an emetic, because in this, as in the sodio-tartrate of antimony, only the action of the antimony is secured and moreover this preparation is not decomposed in a watery solution.

Art. 96.—*On the Alleged Narcotic Properties of Narceia.*

By G. Fronmuller, M.D., and S. Kersch, M.D.

(*Schmidt's Jahrbücher der gesammten Medicin*, January 28; and *British and Foreign Medico-Chirurgical Review*, April.)

Although the narcotic effects of narceia have been lately announced by many authorities, as Claude Bernard, Debout, Béhier, Eulenberg, and Erlenmeyer, Dr. Fronmüller denies to the alkaloid the existence of this property. Soon after its discovery by Pelletier, Magendie and Orfila declared it to be inert, according to their experiments on dogs. Leconte observed in dogs, after the administration of narceia, a troublesome cough, and tenderness of the hind legs, but no cerebral symptoms. Dr. Fronmüller employed narceia twenty-two times, in order to procure sleep, care being taken that the alkaloid was pure. It was used nine times subcutaneously as hydrochlorate of narceia, and thirteen times internally as pure narceia. When used internally, and the dose was gradually raised to twenty grains, no narcotic effect was observed in any of the patients, and the breath, the pulse, the heat of the skin, the secretion of urine, and the state of the pupils were unaffected. Only in one case there was more sleep than usual, but no narcotism. After the two largest doses there was on the following morning, only slight giddiness. Dr. Fronmüller thinks that even a drachm might be given without any result. The subcutaneous injections produced no effect. Experiments instituted by Dr. Kersch, in Prague, on the lower animals, gave a negative result, and thus they confirm the views of Dr. Fronmüller. In none of the animals submitted to experiment was any trace of narcotism observed, either when the narceia was administered internally, or when it was injected into the pleural cavity.

Art. 97.—*On the Action of Papaverin.*

By K. B. Hofmann, M.D.

(*Schmidt's Jahrbücher der gesammten Medicin*, December 28, 1868; and *British and Foreign Medico-Chirurgical Review*, April.)

Dr. Hofman has made some fresh investigations on papaverin, in consequence of its having been recommended as an agent in causing sleep and relaxing the muscles. He himself took the alkaloid in increasing doses up to six grains, and then he experienced a violent hiccough, which ceased in ten minutes, and subsequently an uncomfortable feeling in the pit of the stomach, and great pain in the forehead after eating, but no sensation of weariness or lassitude. In a second experiment with six grains, all the above symptoms were absent, except the oppression at the stomach. The conclusions at which Dr. Hofmann arrived as the result of his experiments were as follows: 1. Papaverin, in reference to its physiological action, stands very low in the rank of narcotic alkaloids, since in the case of none of them used in medicine does a dose of six grains, taken at once, remain inert. 2. Papaverin, in healthy subjects, does not produce, in doses of six grains, the slightest hypnotic effect. 3. It does not relax the muscles, inasmuch as neither at first, nor several hours after it has been taken, does it produce weariness or lassitude, &c. 4. It is not a cumulative agent, and produces no after consequences, so that when taken several days in increasing doses it causes neither sleep nor muscular relaxation. It exerts no striking action on the mental powers analogous to that of other narcotics. 6. The diminution of the pulse is very slight in healthy subjects, namely, about four beats a minute. 7. The breathing and the animal heat are very little altered. 8. Papaverin does not confine the bowels, and does not materially affect the secretion or excretion of the urine, or the elimination of water and chloride of sodium. 9. Whether papaverin shares with opium and morphia the property, when taken in large doses, of disturbing digestion, must remain undecided till further experiments are made.

Art. 98.—*Carbolic Acid: its Doses and Medicinal Value.*

By Henry William Fuller, M.D. Cantab., Physician to St. George's Hospital.

(*British Medical Journal*, February 20.)

In dyspeptic cases—of the fermentative class—accompanied by the copious evolution of gas from the stomach and the discharge of fetid evacuations from the bowels, the effect of carbolic acid, Dr. Fuller writes, is often most satisfactory. Administered in six or eight-minim doses it stimulates and is extremely grateful to the stomach; it causes an immediate evacuation of flatus, and, by checking fermentation, it puts an end to the evolution of gas which forms the most distressing feature of many varieties of dyspepsia. With the exception of charcoal, Dr. Fuller knows of no remedy so useful in these cases, and it not unfrequently operates beneficially even when charcoal fails to relieve.

In typhoid or gastric fever, in which *à priori* beneficial results might have been expected from its employment, Dr. Fuller has been unable to observe any controlling influence.

In scarlatina, accompanied by sloughing throat, Dr. Fuller has employed it on one occasion, and fancied that it proved beneficial. Having regard to the action of the scarlatina poison on the mucous membrane of the stomach, it is not unlikely to prove active for good, and certainly deserves a trial.

In the form of spray, Dr. Fuller has used a solution varying in different cases from five to ten minims of the acid to an ounce of water for the purpose of inhalation. It has been employed in the early and advanced stage of phthisis, in so called laryngeal phthisis, in chronic bronchitis, in gangrene of the lung, and in various affections of the throat, including diphtheria. In the last named, it does not prove so useful as the pure solution of permanganate of potash administered in the same way, which sometimes appears to exercise a magical effect in clearing the throat of the membrane; but in all the other forms of complaint it exercises in many instances a decidedly beneficial influence. It lessens the irritability of the mucous surface and facilitates expectoration, and the patients aver that it affords relief. In gangrene of the lung, it removes the fetid odor, and otherwise appears to be productive of good.

The only disagreeable symptom which Dr. Fuller has observed to follow its employment in the form of spray, has been occasional faintness when the inhalation has been continued too long. The time at which this faintness occurs varies greatly in different cases. The patient should desist from inhaling as soon as the slightest discomfort arises. Dr. Fuller's impression, however, is, that this faintness is not induced by the action of the acid, but rather by the abnegation of atmospheric air which attends inhalation with Siegle's apparatus; for in every instance except one in which he has observed it, Siegle's steam-apparatus was being employed. He therefore prefers using the common hand-bellows, previously heating the solution of acid if the inhalation of cold spray seems likely to be prejudicial.

Art. 99.—*The Internal Use of Carbolic Acid.*

(*British Medical Journal*, February 13, 1869.)

At the London Hospital carbolic acid has been extensively employed by Dr. Andrew Clark. He believes it to be an agent of considerable therapeutic value, and we subjoin short notices of some of the chief affections in which he has seen it to be of positive and permanent use.

In vomiting, Dr. Clark considers that carbolic acid holds rather a better place than creasote, and is most successful where the vomiting is associated with fermentations and catarrh. When the stomach is very irritable it must be given in pill, and in obstinate cases combination with morphia will succeed when each drug by itself has been tried and has failed. Dr. Clark thinks that if it do not succeed in one-grain doses, it will not succeed at all.

In the small, but often long-continued hemorrhages issuing from gastric erosions, or from what has been called the hemorrhagic ulcer, one grain of carbolic acid dissolved, with the addition of a little spirit, in two ounces of water, and given every two or three hours, commonly checks the bleeding at the third dose, provided the stomach be kept at rest.

In chronic gastric catarrh, when bismuth, silver, and acids have failed, success is sometimes obtained from carbolic acid. It is, however, almost exclusively in atonic cases that good is done; and in them the trial of the acid should be preceded by three or four days' employment of bicarbonate of soda, with or without a little hydrocyanic acid. The carbolic acid, moreover, should be given only in quarter-grain doses, much diluted, and upon an empty stomach. If it do no sensible good in a fortnight, it is not likely to succeed by longer use. In any case, it does not seem advisable to continue its administration beyond four or five weeks. After that time it interferes with digestion, and induces headache and general nervous irritability.

In two cases of waterbrash, when other remedies had failed, cure was effected by carbolic acid in grain doses given with bismuth and opium. In flatulence, whether gastric or intestinal, and due to the decomposition either of food or of secretions, carbolic acid acts occasionally with the happiest effect. It should, for this purpose, be administered in grain doses, made into a pill with flour and mucilage. Employed for the relief of flatulence, carbolic acid is of course in most cases more a temporary expedient than a means of permanent cure. That can be effected only by a due regulation of the diet, by iodide of potassium and alkalies where the starchy, and by pepsine and acids where the albuminous digestion is at fault. In those rare cases in which the flatulence is due to excess of mucus, and the decomposition set agoing by its constituent ferment, carbolic acid may be employed legitimately with the object of cure.

In chronic bronchitis, and in bronchorrhœa, the employment of carbolic acid is considered by Dr. Clark to be of great value. Internally it may be administered several times a day, in half-grain doses dissolved in water. It may also be used locally in the form of inhalation or of spray. In the form of inhalation by adding twenty drops of the deliquesced acid to half a pint of boiling water, and inhaling the vapor; in the form of spray by dissolving a grain of carbolic acid in six ounces of water, making a spray by means of Siegle's vaporizer, and causing fifty inhalations to be taken twice or thrice a day.

In certain forms of phthisis in which there is much secretion either from the bronchial tubes or from cavities, and in which there is not very much irritation, inhalation of the vapor of carbolic acid, diluted with steam, produces much benefit. In no phthisical case, however, can the spray be used with safety. In fact, Dr. Clark says that all his trials of carbolic acid sprays in phthisis have been followed by bad results.

Oozing hemorrhages from the air passages are quickly checked by inhaling sprays of weak carbolic acid solutions; but as many such cases are associated with organic disease of the lungs, Dr. Clark considers that their use for this purpose is attended with considerable risk.

Dr. Clark has had little experience of the use of carbolic acid in fevers, and that little is either quite negative or unsatisfactory.

Of no use whatever in cholera, Dr. Clark thinks that carbolic acid alone, or in combination with other drugs, is of real use in the diarrhœas which accompany the march of the epidemic.

In addition to the internal administration of the acid in the cases mentioned, we may add that in the form of injection, Dr. Clark has found the use of carbolic acid of the greatest advantage.

In discharges from the nose and throat, and particularly in ozæna and naso-palatine gland disease, he has employed the saturated watery solution with benefit. To secure its full curative effects, however, the parts should, in the first place, be irrigated by weak alkaline solutions, till all adherent mucus is dissolved, and then the naked mucous membrane will be more effectually acted upon by the carbolic acid water. The application of the fluid may be made in one of three ways: by means of Thudichum's admirable cistern-douche; by a special adaptation of Dr. Clark's spray-producer, which can be passed along

the floor of the nose and be made to scatter its spray over the whole surface of the pharynx and back of the palate; or, better than by either of these plans, when it can be done by drawing the solutions through the nostrils into the mouth. In a few obstinate cases still amenable to cure by carbolic acid, the strength of the solution requires to be increased, and then a little alcohol must be used as the dissolving medium. The glycerine solution is not suitable in these cases; and as a rule when the weak solution fails the strong does not succeed.

In mucous diarrhœa, and in what is termed mucous disease of the large bowels, carbolic acid is a most successful curative agent when properly employed. It is necessary, in the first place, to use injections of solutions of chlorate of potash (five grains to the ounce) in order to dissolve and remove adherent mucus. In the next place, it is necessary to use the solution of carbolic acid (one grain to six ounces) in such a position of the patient, with the hips raised, as will permit it to reach the transverse colon, and to be retained for some time in contact with the mucous membrane. In cases of chronic cystitis, Dr. Clark has succeeded in curing profuse mucous, and sometimes bloody discharges through irrigations of the bladder, with weak solutions of carbolic acid (one grain to six ounces) made by means of a double catheter.

ART. 100.—*Carbolic-Acid Treatment of Suppurating and Sloughing Wounds and Sores.*

In the practice of Mr. JOHN WOOD.

(*The Lancet*, December 12, 1868.)

The carbolic-acid treatment has been employed by Mr. Wood in a good number of cases at King's College Hospital, *pari passu* with the more simple forms of water-dressing, and with no dressing at all further than simple cleanliness of the neighboring parts. The carbolic acid has been used in various forms—namely, as a simple aqueous solution; as a solution in oil, as used in the French hospitals; and as mixture with putty, in the manner introduced by Professor Lister. The last-mentioned method has been employed especially in the treatment of compound fractures and of large chronic abscesses, with all the precautions against the admission of air, &c., recommended by Lister and Syme. A considerable proportion of cases have been attended with very satisfactory results; some have conformed in every respect with the theory of action promulgated by Professor Lister; but in a good number of instances, while the antiseptic action has uniformly been effective in utterly destroying putrefaction and fetor, yet in regard to its antipurulent properties such satisfactory results have not been obtained from the putty method. Suppuration has occurred in these cases to a considerable extent, though it is obviously difficult to say whether it would not have been more profuse in the same cases under another plan of treatment.

An observation having an important bearing upon the comparative value of the treatment has been made. When the treatment was first employed, the hygienic condition of the hospital was very good; and cases treated by the carbolic putty method, by simple water-dressing, and by no local application at all, did almost equally well. Many cases of chronic abscess, opened about the same time, and with the same precautions as to limited and valvular openings and the avoidance of rough handling or intermittent pressure, and with the same application of gentle, steady, and continued pressure by bandaging, got well equally rapidly, and with pretty much the same amount of consequent discharge. The same may also be said of the cases of compound fracture, in which the wound was limited and immediately covered up from the air by lint or collodion. Some time afterwards, in the autumnal months, the hospital air became vitiated; and notwithstanding the free use of carbolic acid in the waterclosets and wards, and in the water used for all purposes of ablution and disinfection, many of the cases treated with carbolic acid in exactly the same careful way resulted in free suppuration. One case of amputation of the thigh, followed by bedsore, treated

throughout by the carbolic putty method, succumbed at last, after a prolonged illness, from pyæmic pneumonia of the lobular variety. Another case of operation for urethral fistula and phymosis, also attacked by the same disease, was more fortunate. The patient was placed in a separate ward, the floor of which was kept always sprinkled with MacDougal's carbolic powder, a thorough draft of air kept up by means of a fire and open windows, and the sulphite of magnesia administered internally, with wine, brandy, quinine, and good diet. The local treatment throughout was by carbolic oil and putty. The patient, though of a debilitated constitution, and producing well-marked and copious rusty-colored and muco-purulent expectoration, made a good recovery. It admits, perhaps, of dispute what proportion of this result was due to the carbolic treatment; but most surgeons would incline to the belief that its local and atmospheric or respiratory application had the largest share in the beneficial agency. A case of lumbar, another of psoas abscess, and a third of chronic abscess of the thigh, occurring about this time, continued to exhibit tolerably profuse suppuration during the carbolic treatment. It was also observed that the neighborhood of the sore was apt to become affected with a dark-red, dusky inflammation, sometimes ending in separation of the cuticle. This was especially apt to follow the use of the carbolic oil, even when diluted to a strength considerably below that used in accordance with the recommendation of Professor Lister. It occurred also in cases where the carbolic putty was employed with every precaution to prevent its absolute contact with the skin, acting apparently by its vapor upon the surface. After a time, when granulations began to form in a sore, the effect of the carbolic acid or its vapor was decidedly to check, diminish, and even in some cases to destroy the filling up process, which the removal of the carbolic acid at once and repeatedly altered for the better. In such cases, however, the suppuration was also always held in abeyance; but promptly returned when the carbolic dressings were discontinued. As an injection in gonorrhœa the aqueous solution of carbolic acid has uniformly been found too irritating to the urethra to be long continued, in most cases producing a marked increase in the pain after micturition, and in the inflammatory redness and swelling about the meatus urinarius.

Since the beginning of the year, Mr. Wood has used extensively a double carbolate salt, which was first (he says) manufactured at his suggestion.[1] This salt is the sulpho-carbolate of zinc. It is a definite crystallizable compound composed of the sulphate of zinc and the carbolate of zinc. Its formula is, according to an analysis made by Professor Bloxam, of King's College: $C^{12}H^5$-ZnO^2, $2SO^3$+Aq. Its most perfect crystalline form is right rhombic plates, of a flesh color; and its more common form, as supplied by the maker, is in agglomerated amorphous masses of a pinkish-white color. It is very soluble in water, and gives off no smell of carbolic acid whatever, either in the solid form or in solution. This salt, in aqueous solution of from three to six grains to the ounce, Mr. Wood has found of great service in all cases to which the use of carbolic acid is applicable as a dressing for wounds. It appears to combine all the astringent and detergent properties of the sulphate of zinc with the peculiar antiseptic and antipurulent properties of carbolic acid, and possesses the additional advantage of giving off the carbolic acid, in measure and gradually, by a slow decomposition of the salt, under the chemical influence of the discharges. In cases of gonorrhœa, Mr. Wood uses it from the very beginning of the symptoms as a solution of three grains to the ounce, frequently and copiously applied by means of a syringe. As the case advances or proves refractory, the strength of the injection is increased to five grains. The effect upon the purulent nature of the discharge is immediate and marked. At once it diminishes the quantity, and renders more transparent and mucus-like the quality of the flow. In recent cases, treated from the first and properly attended to, it rarely fails to complete the cure in a fortnight or three weeks. In cases which have been neglected previously to the adoption of this treatment, and in chronic cases of gleet, the

[1] Dr. Sansom, we believe, first brought the sulpho-carbolates under public notice at the Obstetrical Society on Dec. 4th, 1867.

duration of the treatment has been longer; and in some, accompanied by constitutional cachexia, or interrupted by inflammatory action in the neck of the bladder, it has while employed kept in check the discharge, but failed to suppress it entirely. In some the discharge has returned directly upon the remission of the injection, and upon its resumption has again nearly entirely ceased. Orchitis or bladder symptoms have not occurred in the cases in which it has been employed, in as great a proportion as in those treated by internal remedies or left without active treatment. As an application to herpetic and suppurating soft chancre it is equally effective as an antipurulent agent, and, combined with the administration of iodide of potassium, a speedy healing of the sore has followed. In these cases, and also those of hard chancre, Mr. Wood has employed the *strong carbolic acid* as an escharotic in the early stages, and approves highly of the results obtained. He also has used the strong undiluted acid with the same purpose as a subcutaneous injection in nævi materni, with unvarying success. Its action in such cases is prompt and efficacious in destroying all the tissues with which it is brought into immediate contact. It is at the same time very manageable, and leaves a dry eschar *without any suppuration*, and which, when it falls off like a scab, leaves a cicatrized surface beneath. In efficacy, manageability, cleanliness, and rapidity of results, it is, in these cases, infinitely superior to any other escharotic that has been tried. Mr. Wood has found it efficacious also as an escharotic injection in cancerous nodules of the skin and subcutaneous structures, causing them to shrivel and dry up.

The solution of the sulpho-carbolate of zinc has been extensively used as a dressing to wounds and sores in the practice of Mr. Wood. It removes all odor as promptly as the carbolic lotion, while it is less irritating, more detergent, has no smell, and as effectively prevents all fungoid or sporular formations in moist dressings during hot weather as the carbolic acid itself.

Art. 101.—*Carbolic Acid in the Sickness of Pregnancy.*

By Edward Garraway, Faversham, Kent.

(*British Medical Journal*, March 13.)

Carbolic acid is the only remedy which Mr. Garraway has ever found of any avail in pregnant sickness. Patients who have had it in one pregnancy, invariably ask for "that tar medicine" in the next. In other forms of sympathetic vomiting it has proved no less valuable. Mr. Garraway quotes the two most noteworthy cases he has met with:—

"Miss ——, aged nineteen, a highly hysterical girl, the subject of pelvic abscess, had vomited every meal immediately after swallowing it for three years. Physic and physicians, of course, had been exhausted upon her. I gave a drop of carbolic acid three times a day. She retained this from the first. After ten doses had been taken —*i. e.*, on the fourth day—a meal was kept down; and from this time she retained alternate meals. In a fortnight, two meals out of three stayed; but the unwonted presence of so much food in the stomach occasioned such distress, that I was induced to partially withdraw the remedy, and allow two out of four meals to be rejected. The carbolic acid, however, was gradually persevered with; and, in the course of a year, the stomach was able to bear and retain four meals a day.

"Mrs. ——, at the eighth month of gestation, engaged me to attend her, and complained that she had been sick throughout her pregnancy. I declined prescribing, assuring her that the vomiting would cease immediately after delivery. However, it persisted as before; and she then informed me that for nine years she had never passed a day without vomiting, sometimes several times. This condition resulted from an attack of fever. I waited a fortnight after her accouchement, and then put her upon carbolic acid. She never once vomited again. The remedy was continued a fortnight, then gradually withdrawn."

Mr. Garraway gives drop-doses of the crystal, liquefied by heat, and diffused in half an ounce of thin mucilage, three times a day.

Art. 102.—*The Double Salts of Carbolic Acid.*

(*British Medical Journal*, March 13.)

At the last meeting of the Royal Medical and Chirurgical Society, an interesting paper was read by Dr. Sansom, on the properties of the double salts of carbolic acid. When the acid is used in an uncombined state, it is very caustic in large doses, and even when much diluted, it has a very irritant action. To obviate this, and yet retain the antiseptic properties of the acid, the author has prepared a series of definite compounds, in which sodium, zinc, or magnesium take the part of bases in conjunction with the sulphuric and carbolic acids. These salts are crystalline, readily soluble in water, have a distinct odor of carbolic acid; and, when treated with a few drops of a solution of perchloride of iron, give a dark-red color, due to the sulpho-carbolate of iron.

Mr. Crookes, in his paper in the *Cattle Plague Report*, has shown most conclusively that carbolic acid has the power of destroying living germs; it will prevent the growth of the yeast fungus; it will destroy, also (he believes), the germs in zymotic diseases. When the expired air of an animal suffering from the cattle-plague was passed through a tube which was loosely plugged with cotton-wool, the germs of the disease were entangled among the fibres. A plug so prepared was inserted under the skin of a healthy cow, and in a short time it suffered from the disease. If, however, the wool had been previously soaked in a solution of carbolic acid, no effect whatever seemed to result when a healthy animal was inoculated, as in the first case. From these experiments, it seemed to follow—1, That the actual poison which caused the disease was a material substance, which could be collected; and, 2, That the noxious properties of this substance could be destroyed by carbolic acid, or by substances possessing like properties. It naturally occurred to medical men that a similar method of treatment might be of avail in zymotic diseases, or in the treatment of external wounds. Yet these hopes have not been fulfilled; and another time we shall attempt to show why this method of treatment has not been of as much use as was expected in curing zymotic diseases.

Dr. Sansom has found that the sulpho-carbolate of soda is the best salt to be given, and has prescribed very large doses, without producing marked effects of any irritant action. When this salt is administered internally, carbolic acid cannot be chemically detected in the urine, but only the sulphate of soda. When a person has taken the salt for some time, the urine becomes of a greenish tint, and will keep for a much longer period than usual without decomposition.

The author by no means proved that as yet any real good had followed from using these salts; nor did he give any cases of fever in which the course of the disease was cut short by the drug. In the discussion which ensued, the speakers had a vague idea that a better result had followed the use of the salt than when other remedies were given; but some, who had watched the action of the preparation in typhoid fever and pyæmia, and he carefully noted the course and duration of the disease, came to the conclusion that no benefit at all had resulted. Carbolic acid is no doubt most valuable in preventing disease; but whether, when the poison has once entered the system, it can then destroy it, is a question which can only be solved by experience. Our own observations would tend to make us by no means sanguine; but the treatment is one which should be fairly tried, and for this purpose the temperature of the diseases should be taken, as well as accurate notes of the cases, so as to see if these salts have any decided effect on the course of the disease.

Art. 103.—*Physiological Action of the Bromide of Potassium.*

By H. P. Bowditch, M.D.

(*American Journal of the Medical Sciences*, January.)

Our contemporary, the *Boston Med. and Surg. Journ.* (Oct. 22, 1868), contains an interesting paper, by Dr. H. P. Bowditch, on this subject, giving

the results of recent observations, and of some experiments made at the Massachusetts Medical School during the past spring by a class of students under the direction of Professor E. H. Clarke and Dr. R. Amory.

The author thinks that from these experiments and observations he may draw the following conclusions:—

1. The bromide of potassium is rapidly absorbed.
2. Though it appears quickly in the urine, it is upon the whole not very rapidly eliminated.
3. It is eliminated unchanged by the kidneys, the skin, and perhaps by the intestines.
4. It is sometimes decomposed in the system, and free bromine eliminated by the breath.
5. While passing into the system it acts as a local irritant on the surfaces through which it passes.
6. While in the system it acts as a vascular and nervous sedative.
7. While passing out of the system its primary effect is to diminish all the secretions, except perhaps the urine, but secondarily hypersecretion may be induced.

ART. 104.—*Bromide of Potassium and Antimony in Puerperal Convulsions.*

By T. N. SIMMONDS, M.D.

(*Medical Press and Circular*, February 24.)

Dr. T. N. Simmonds reports to the *Philadelphia Medical and Surgical Reporter* the history of a case of puerperal convulsions, in which the efficacy of these remedies was evident. A primipara, while in labor, with the head of the child in the inferior strait, was seized with a violent convulsion, which was followed by four others, with an interval of about fifteen minutes between each. Chloroform proving of no benefit, bromide of potassium was administered, beginning with doses of forty grains in combination with half a grain of antimony. In combination with the bromide one half grain of the antimony was given every hour and a half or two hours, until three grains of the antimony were taken. After the first dose there was a return of four paroxysms. The first occurred within an hour, the second in two hours, the third between three and four hours, and the fourth in eight hours. Their intensity and duration were also diminished in the order of their recurrence. Convalescence was rapid.

ART. 105.—*Cases Illustrating the Use of the Bromide of Potassium in Drachm Doses.*

By DANIEL G. BURR, M.D., Assistant Physician to the New York State Inebriate Asylum, Binghampton, N. Y.

(*The St. Louis Medical and Surgical Journal*, November, 1868.)

In the first five of the cases related by Dr. Burr, the operation of the bromide in quieting the nervousness and inducing sleep was most satisfactory. In two cases particularly, almost every dose of the bromide was followed by a nap, which at first was of short duration, but grew longer and longer, until they declared that "they thought that they could sleep all of the time if they should take the bromide regularly." In one case the patient said that he was not susceptible to the hypnotic effects of opium, and that it produced contrary effects so severe, that he could get no benefit from its use. Dr. Burr finds that the bromide displays its powers as a hypnotic to the best advantage in this class of patients, while in others, and of these there are only a few, it produces but little if any perceptible effect. Dr. Burr thinks that it is effective in lessening cerebral congestion when that congestion is in its incipient stages. When the congestion has lasted long enough to cause perversion of the faculties, as is

evinced by numerous and various hallucinations, he thinks that its effects are very slight, if at all perceptible. Whether its power as a hypnotic is secondary, as Dr. J. H. Bill (in an article on bromide of potassium in the *American Journal of the Medical Sciences* for July, 1868) states, Dr. Burr does not pretend to say. So far as he has observed, there have been no ill effects resulting from the use of the bromide in drachm doses. Sometimes after using it steadily for a week, a lack of co-ordinating power is observed in the lower extremities, but it soon passes off with the discontinuance of the medicine. Nearly every case treated at the York State Asylum with the bromide, is accompanied with a diarrhœa or looseness of the bowels, which in some cases, Dr. Burr states, may require a little after-treatment, but generally subsides with the discontinuance of the bromide.

In a case of active delirium tremens, Dr. Burr thinks that he should place greater dependence upon opium than the bromide of potassium, while in the milder cases, or the so-called "Jim Jams," he thinks that there is no remedy that has equal effect with the bromide.

ART. 106.—*On Chloracetic Acid as a Caustic.*

By Dr. URNER, of Bonn.

(*Schmidt's Jahrbücher der gesammten Medicin*, November 25, 1868; and *British and Foreign Medico-Chirurgical Review*, April.)

The chloracetic acid is a powerful caustic, acting in some degree like nitric acid in this respect. Experiments made by Dr. Urner in practice are of a very encouraging character in respect to its use in such cases as warts, condylomata, lupus, &c. The pain caused by its application was but slight, and did not last long. The chloracetic acid belongs to the class of caustics which penetrate very deeply, and its operation is not inferior in intensity to that of fuming nitric acid. It is adapted for the burning of the smaller and larger neoplasms, as it can be applied both in a greater or less degree of concentration, and only on the spot required, and it does not affect the surrounding parts. Its application is not so powerful as that of many other caustics, whether stronger or weaker, and it excites no great inflammation of the parts: it leaves behind a moderate scurf, which is soon removed, leaving beneath it healthy granulations: the scars formed by it are moderately smooth, and subsequently undergo no great contraction: symptoms of poisoning by its use need not be feared; its operation can always be regulated, and small quantities are sufficient to procure an instantaneous and effectual cauterization. Nitrate of silver cauterizes less deeply than chloracetic acid, the cicatrization follows more slowly, and its application is more painful. Chloride of zinc and caustic potash cauterize more deeply than chloracetic acid, but their action is more extended, and attended with much greater pain. The best mode of applying the chloracetic acid is by means of a glass rod, or a glass or asbestos pencil.

ART. 107.—*On the Sanguinaria Canadensis.*

By VICTOR VAN DER ESPT, M.D.

(*Schmidt's Jahrbücher der gesammten Medicin*, Nov. 25, 1868; and *British and Foreign Medico-Chirurgical Review*, April.)

The sanguinaria canadensis has been employed for some time in various diseases. All parts of the plant possess a certain activity; but in America only the root is used. It contains a large amount of orange-colored resin, a red coloring matter which affords the so-called *sanguinarin*, and a small quantity of colorless fixed oil. This root, when dried, appears externally reddish-brown, of a spongy texture on fracture, the broken parts being at first orange-colored, and becoming brown in the air. The powder of the root is brownish-yellow, of a slightly narcotic smell, and permanently bitter taste; it excites sneezing.

In large doses it is a powerful irritant, and in small ones it causes in the mouth a sensation of heat, a bitter taste, and increased salivation; and in the stomach it causes irritation, a feeling of heat in the epigastrium, and improvement of the appetite and of digestion. It acts on the heart and vessels, increasing the circulation. In larger doses, as half a gramme to a gramme, it causes copious vomiting and a general feeling of weakness, and in larger doses till all the above-mentioned symptoms are increased, and there follow gastrodynia, general weakness, prostration, and finally death. Dr. Van der Espt has found that it acts locally as a stimulant to indolent ulcers, and that internally it is a useful remedy in general weakness, especially after exhausting diseases, when the stomach requires a stimulant. It may often be used with success in small and often-repeated doses in acute bronchitis and pneumonia, when its acts like tartar emetic, and in hooping-cough as an emetic. It is especially recommended by American physicians, as well as by Dr. Van der Espt, in diphtheria and croup, especially at the onset of the disease, and in the first instance as an emetic. It is also successfully employed as an emmenagogue.

ART. 108.—*On the Employment of the Neutral Acetate of Potash in Acute and Chronic Gastro-intestinal Discharges.*

By Dr. MAROTTE, Physician of the Hôpital de la Pitié.

(*Bulletin Général de Thérapeutique*, November 30, 1868.)

Disorder of the mucous membrane of the stomach and bowels may take place with or without fever, and may be either acute or chronic. Physiological causes or pathological conditions may influence its degree, its tenacity, or its duration, but do not at all change its nature. The presence of the products of secretion on the visible mucous membranes, as the tongue and the buccal cavity, their discharge by the stomach or the anus, are the characters of disorders of the mucous membranes, as of all the varieties of gastro-intestinal discharges. But in practice it is well to distinguish two varieties, one in which the products of secretion are in such small quantities that the excretion is reduced almost to a nullity, and occurs only at intervals more or less distant, sometimes voided by the stomach, but more frequently, although still rarely, by the anus. In the other variety the products of secretion are so abundant as to be evacuated almost daily, either by vomiting or by stool. It is in the first variety that the acetate of potash affords most relief, and under its use the clamminess of the mouth and the dryness of the tongue diminish; the stools are voided spontaneously from time to time, or are more easily excited by injections which were before inefficacious; the urine becomes less deep colored, and the feverish excitement, and especially the exacerbations, are lessened. Dr. Marotte's memoir on this subject concludes with the following propositions: The acetate of potash, frequently employed in the last two centuries, does not deserve the oblivion into which it has almost fallen; for without possessing the active properties of some other medicines, it is often of use, especially in gastro-intestinal discharges, as the author has proved by experience. It appears to possess a direct sedative action on the irritation of nutrition and secretion, which is the cause of these discharges. Its action does not seem to be the consequence of any appreciable phenomenon, and is manifest only by the diminution of all the morbid symptoms. All the forms and varieties of gastro-intestinal discharges are not equally benefited by its use, and it seems to be best adapted for the simple irritation of the secreting apparatus, without complications. It has a special action on the symptom vomiting, whether occurring in dyspeptic affections or in pregnancy; but its action is definitely exerted only upon the vomiting occurring in disorder of the mucous membranes (*état muqueux*). The dose necessary to be given in these cases should not, in the author's opinion, exceed 2 to 6 or even 8 grammes in twenty-four hours.

Art. 109.—*On the Comparative Action of Preparations of Iron which are considered as Tonics.*

By Dr. J. Jeannel, of Bordeaux.

(*Gazette Hebdomadaire*, No. 10, 1869.)

1. All the soluble salts of iron, whatever the nature of their acid, may be absorbed by the stomach; those, however, which are very sapid and very astringent, as the sulphate and chloride, cannot be tolerated except in a very diluted condition; they are rather astringents than truly restorative tonics (Mialhe).

2. When assimilation of the steel and restoration of the blood corpuscles are the objects in view, we should prefer those preparations which are insoluble in water, and more or less readily soluble in the acids of the gastric juice (divided iron, the hydrate, the carbonate, &c.), or the slightly astringent soluble salts (the lactate, citrate, tartrate, pyrophosphate, &c.).

The bad odor following the ingestion of divided iron may be explained by the statement that the nascent hydrogen resulting from the decomposition of water by the metal in the presence of the gastric acids enters into combination with the sulphur of the constituent albuminoid materials of the organic fluids (Mialhe).

3. The preparations of iron which are insoluble in water, and soluble in the acids of the gastric juice, should be administered with food, because food determines the secretion of gastric juice (Mialhe).

4. Metallic iron, the sesquioxide, and the salts of the protoxide of iron, when dissolved in the gastric juice, pass into the condition of iron salts, as they find themselves in the presence of a liquid acid containing oxygen in solution (Mialhe).

5. The ferric salts are decomposed by alkaline solutions, and consequently by the intestinal juices; absorption of ferruginous preparations in the form of aqueous solutions cannot be carried on in the intestines except with the citrate, lactate, citro-ammoniacal pyrophosphate, and the potassio-tartrate, which, not being precipitated by alkalies, can be absorbed by the intestines in the form of an aqueous solution.

6. The oxides of iron in the condition of hydrates are soluble in small proportions in fatty masses with which they form emulsions, and are afterwards absorbed by the intestines.

7. There exists, then, a double way of absorption for salts of iron: firstly, the stomach, where they are absorbed directly in an acid aqueous solution, secondly, the intestine, where the precipitated oxide is dissolved, or at least partially so, in the fatty mass.

8. But as, on the one hand, the acidity of the gastric juice is very feeble, and, on the other, the solubility of the oxides of iron in the fatty mass of the intestines is very limited, it is useless to administer at one time strong doses of ferruginous preparations; all that cannot be dissolved by the gastric juice in the stomach, and by the fat in the intestines, must necessarily traverse uselessly the digestive tube, and act as a foreign body. The black color which is always communicated to the feces by ferruginous preparations converted into sulphate of iron, proves that a great part of the dose administered has not been absorbed.

9. With regard to the salts which are rendered stable by the citrate of ammonia, and to the potassio-tartrate of iron which is not precipitated by alkalies, these may be absorbed by the stomach and by the intestines. This fact explains why it is not indispensable to administer these preparations with food, and how they can be administered with utility in large doses.

10. The salts of iron which are not precipitated by alkalies, and the electro-negative element of which is not susceptible of destruction in the blood (the cyanide, ferro-cyanide, sulpho-cyanide of potassium and iron), resist all decom-

position in the organism; these are eliminated in the urine, and do not act as restorative tonics (Mialhe).

11. The organic acid salts which are combustible in the blood, and those which resist the decomposing action of alkalies, are not eliminated in the urine; these are assimilated, and contribute to the reconstruction of the blood corpuscles (the lactate, the citrate, rendered stable by citrate of ammonia, the potassio-tartrate).

12. It is impossible to explain the chemical transformation which the pyrophosphate of iron and soda and the citro-ammoniacal pyrophosphate of iron, both undoubted reconstituent agents, undergo in the blood.

13. In laboratory experiments all the preparations of iron prevent the digestion of fibrine by the gastric juice, with the single exception of the lactate; one will be led to the conclusion then that all the preparations of iron but the lactate are hurtful to digestion, but every-day clinical experience proves that great importance cannot rightly be attached to this result.

ART. 110.—*Lobelin in Rigid Os and Perineum.*

By GEORGE KILNER, M.D.

(*Chicago Medical Journal*, December, 1868; and *New York Medical Journal*, April, 1869.)

Dr. Kilner, of Sullivan, Illinois, strongly, recommends the use of lobelin, the active principle of the *lobelia inflata*, for the purpose of producing dilatation of the os uteri and perineum during labor. He uses it in the form of a rectal suppository, five grains of lobelin rubbed up with cocoa-butter q. s., and he states that fifteen or twenty minutes will usually suffice to bring about the desired effect. Notwithstanding that this is, perhaps, the most powerful relaxant in the materia medica, he claims that no danger need be apprehended from its use in this way, and supports his position by several concisely reported cases from his own practice.

ART. 111.—*Therapeutical Employment of Opium Smoking.*

By M. ARMAND.

(*Medical Times and Gazette*, December 19, 1868.)

At the last meeting of the Académie de Médecine, M. Armand, a distinguished army surgeon, read a paper on the "Therapeutical Employment of Opium-smoking." He is well acquainted with the practice as it prevails in the East, and in 1865 published in the *Gazette Médicale* several papers upon the subject; and he observes that Sydenham, who stated that he would rather abandon the profession than give up the use of opium, would certainly have utilized the Chinese opium-smoking had he been aware of it. M. Armand, during several years' trial, having found it an easy, inoffensive, and very efficacious mode of treating chronic and neuralgic affections, is anxious to bring it more prominently before the profession. The pipe employed is quite peculiar in its construction, in nowise resembling that used for tobacco, and M. Armand not only described, but exhibited it in action to the learned body which he was addressing. A mere buccal aspiration does not suffice, the object being to make as deep and prolonged an inspiration as possible, so as to charge the bronchi with the opium smoke. This is essential, in order to effect the combustion of the opium and to derive advantage from this. The smoking is an agreeable operation even on the firt attempt, and if the inspiration has not been too forcible no coughing is produced. In his own personal trials, M. Armand has found that he can smoke ten grains without any ill effect, but beyond this quantity it induces heat of surface and troublesome dreams. Keeping within the moderate amount of from one to ten grains, a sedative and highly useful therapeutical action is procured, especially in chronic bronchitis and laryngitis, pertussis, asthma, nervous palpitation, angina pectoris, gastralgia, and

enteralgia. Next in order, come facial and dental and supra-orbital neuralgiæ and migraine, as also articular and muscular rheumatism; for it is to be noted that, besides its sedative action, opium-smoking carried to a high degree increases the temperature and induces diaphoresis. M. Armand has tried the effect of various opiated cigars, but finds that nothing but the vapor proceeding from the extract of opium burnt in the pipe produces the beneficial effects he has been adverting to.

ART. 112.—*Syrup of Iodide of Iron and its Preservation.*

(*Pharmaceutical Journal*, January.)

M. Jeannel, taking advantage of the power glucose possesses to reduce a persalt of iron at ordinary temperatures, recommends the following formula for the preparation of a solution of iodide of iron which shall remain unchanged by exposure to the air:—

Iodine	8.2 parts.
Iron filings	4.2 "
Distilled water	20.0 "
Honey	70.0 "
Tartaric acid	0.5 "

Mix the iodine, iron, and water in a flask, and when combination is complete, filter the green solution, and add the honey and tartaric acid. The product will contain 10 per cent. of iodide of iron. This preparation, after remaining exposed to the air in a phial simply closed with paper for two months, was still bright and free from color. It contained no free iodine or ferric salt.

M. Jeannel has observed that the addition of one five-thousandth part of tartaric acid to syrup of iodide of iron, which has become bad, renders it clear, and at the same time notably diminishes its inky taste.

ART. 113.—*Tobacco as an Hypnotic in a case of Chronic Wakefulness.*

By E. A. HERVEY, M.D., of Rossville, Staten Island, N. Y.

(*American Journal of the Medical Sciences*, January.)

Some years since Dr. Hervey was consulted by his brother, who had long been troubled with what appeared to be pleurodynia, attended with dull pain, somewhat increased at night. As opiates disagreed with him, always producing nausea and vomiting, or else restlessness and delirium, it was necessary to resort to some narcotic that would not give rise to such unpleasant consequences. After various unsuccessful experiments, Dr. Hervey determined to try tobacco, and advised him to smoke a cigar or pipe of Turkish or other mild tobacco previous to retiring at night. As he had never been in the habit of using tobacco in any form, and having, moreover, a great aversion to its use, the effect of a few puffs was very marked, inducing a sweet and dreamless sleep. It is important to add that, in addition to pleurodynia, the author's brother had for many years been affected with what is termed *insomnia*.

ART. 114.—*Tobacco Smoke in Intestinal Obstructions.*

(*Medical Press and Circular.*)

Dr. Olive, of the Marseilles Dispensary, has had recourse successfully to tobacco smoke injections in the case of a man, thirty-eight years of age, who, despite injections of purgatives, oil, and tobacco, and of cold applications, was given over to certain death. With the help of a bellows M. Olive introduced the tobacco smoke into the intestine; the tympanitis appeared to increase, but after a short time three dark fetid stools were passed, and the patient recovered at once.

ART. 115.—*Sulphurous Acid in the Treatment of Pyrosis.*

By HENRY LAWSON, M.D.

(*The Practitioner*, September, 1868.)

In every instance, Dr. Lawson asserts, in which sulphurous acid has been employed, it has, in a very short time, completely arrested the water-brash secretion. It checks the excessive secretion, stops the vomiting, and lessens the epigastric dragging pain so often complained of. Dr. Lawson considers, provisionally, that its good effects are due to the production of ozone and the destruction of vegetable germs.

The doses of the acid (B. P.) vary from ℥xxx to ʒj three times a day, shortly before meals. Bitter infusions may be employed as a vehicle, but plain distilled water is best.

ART. 116.—*On Veratrum Viride considered as a Therapeutical Agent.*[1]

By M. OULMONT.

(*Archives Générales de Médecine*, No. 12, 1868.)

Veratrum viride is employed by M. Oulmont in the condition of resinous extract which is administered in one centigramme doses every hour until vomiting is produced. This occurs generally after the third dose, but sometimes not until the seventh or eighth.

Recognizing the elective action of veratrum viride on febrile phenomena, M. Oulmont has administered this agent in cases of acute pneumonia, acute articular rheumatism, pleurisy, and typhoid fever. The following conclusions give the results which have been obtained:—

Veratrum viride acts directly upon the fever by lowering the pulse and temperature. The pulse falls in the course of three or four hours by from 20 to 50 pulsations; the temperature sinks less rapidly; it descends for 1½ or 2 degrees only, in the course of three or four days. The necessary dose for obtaining these results is from 3 to 7 centigrammes daily; the drug must be administered hourly until vomiting is produced.

The action of veratrum viride is transient, and is not well marked until the administration of the drug has been continued over two or three days. From this it follows that in order to obtain lasting effects, veratrum viride ought to be administered during two or three days.

By its action on fever, veratrum viride is a rational antiphlogistic means for combating pneumonia, acute articular rheumatism, and pleurisy.

It exerts very evidently a favorable action in pneumonia, the mean duration of which is reduced to six days and three-quarters; the mortality also seems to be less than that after other methods of treatment.

It exerts but an indirect action on the local condition by arresting the progress of the disease, confining it within its limits, and hastening resolution.

Its favorable action is less maked in articular rheumatism.

Its employment is contra-indicated in typhoid fever.

ART. 117.—*On the Value of the Nitrate of Lead in the Treatment of Sore Nipples.*

By J. G. WILSON, M.D., F.R.S.E., Professor of Midwifery in the Andersonian University, Physician-Accoucheur to the Glasgow Maternity Hospital.

(*Glasgow Medical Journal*, May.)

From ample experience in the use of this substance—which has now extended over three years—Dr. Wilson feels satisfied of its superiority to any other

[1] Memoir communicated to the Académie de Médecine, Oct. 27th, 1868.

agent which he has hitherto employed. He has found it in numerous instances to succeed, when tannin, gallic acid, zinc, benzoin, borax, &c., failed to produce the desired effect. He does not mean, however, to assert that it will always succeed, or that it is an infallible cure, but in his experience the cases were few and rare in which he was disappointed with the result of its employment. The mode in which Dr. Wilson uses the nitrate of lead is in solution, dissolved in glycerine or brandy. The following is the formula he generally employs:—

℞ Nitratis plumbi . . . . . gr. x.
Glycerini . . . . . ʒi. Solve.

This is applied freely to the affected nipple after suckling. Care must be taken to wash the nipple previous to the next application of the infant. This astringent lotion generally produces a sharp smarting pain for a short time, but this soon subsides. In superficial abrasions or excoriations especially, Dr. Wilson has found this application to have an excellent effect. In some cases of deeply fissured or ulcerated nipples, a stronger solution is occasionally required. In such instances, the lotion should be thoroughly applied, by means of a small hair pencil, to the whole of the fissured or ulcerated surface. The employment of the nitrate of lead may, if necessary, be combined with other modes of treatment. In severe cases, for example, the application of a teated shield, so as to protect the nipple while the treatment is being carried out, is sometimes advantageous. On several occasions, when treating cases of more than usual obstinacy, Dr. Wilson has occasionally applied the nitrate of silver, collodion, or a solution of gutta-percha, and found them useful adjuvants.

ART. 118.—*Sulphite of Soda and Sulphite of Ammonia in Intermittent Fever.*

By W. J. CHANDLER, M.D.

(*Medical Record*, March 1.)

The author reports twenty cases of intermittent fever treated in the service of Dr. Austin Flint, at Bellevue Hospital, with the sulphite of soda and the sulphite of ammonia.

The following are the conclusions which he draws from these cases:—

1st. That in a few cases the paroxysms of intermittent fever are relieved, and possibly arrested, by the sulphite of soda or sulphite of ammonia.

2d. That in the large majority of cases these remedies fail entirely to arrest the paroxysms, or to lessen either their severity or frequency.

3d. That these remedies require to be given in large doses for a length of time to effect any appreciable improvement.

4th. That, when given in doses sufficient to modify or arrest the paroxysms, they produce considerable irritation of the stomach and intestinal canal.

5th. That as remedies for intermittent fever they are in every respect vastly inferior to quinia.

ART. 119.—*The Oil of Yellow Sandal-Wood in the Treatment of Gonorrhœa.*

By H. W. A. BEACH, M.D.

[*Boston Med. and Surg. Journal*, November 5, 1868; and *New York Medical Journal*, April, 1869.)

In ordinary cases of gonorrhœa, Dr. Beach writes, when the treatment has been commenced early, five to seven days have sufficed for a cure; but if the patient has not been seen until the discharge and other symptoms were at their height, ten days or two weeks. In gleet, although the amount of discharge and inflammation might appear to correspond in different cases, the time occupied

in curing it has varied much. The shortest has been six days, and the longest about six weeks, but they have averaged three weeks unless complicated with stricture, when the relief has been only temporary. In ordinary cases, after the first series, an injection of tepid water has been used three times daily. Most of the cases related by Dr. Beach (over one hundred in number) have been treated with the oil of *yellow* sandal-wood; that of the white was not found to be effective; while that of the red has been successfully used in a few cases, but the cure has not been so rapid. The best and easiest method of administration is to drop the oil on sugar; for an ordinary case, ten drops three times daily, and for gleet, fifteen drops. Dr. Beach has given twenty drops three times daily without any bad effects.

Art. 120.—*Phenic Acid in Syphilis.*

By Dr. Minteforte.

(*Giornale Italiano delle Malattie Venere*; and *New York Medical Journal*, April.)

Dr. Minteforte recommends the application to syphilitic ulcers of phenic acid in water, five parts to one hundred. Dr. Fidele de Fieri extols the deuto-phosphate of mercury, one grain a day, continued for two months, in tertiary syphilis.

Art. 121.—*Injections of Corrosive Sublimate for Constitutional Syphilis.*

(*Wochenblatt der k. k. Gesellschaft der Aerzte*, No. 49, 1868; and *British Medical Journal*, March 27.)

Dr. Grünfeld has recently given the results of extensive investigations made by Professor Sigmund on the treatment of constitutional syphilis by the subcutaneous injection of corrosive sublimate in solution. This method was applied in more than sixty cases of syphilis, in all of which the disease had been manifested by some exanthem. The injected solution consisted of one ounce of water containing four grains of corrosive sublimate. Of this from ten to fifteen minims—consequently, from one-twelfth to one-fifth of a grain of the salt—were used at one sitting. The usual quantity was fifteen minims. In every instance the injections were followed by a more or less intense burning at the seat of operation, which either quickly ceased, or gave way to a less severe smarting, which lasted for several days. An infiltration of the parts around the injected spot was also produced, and this persisted for several weeks. In some few cases, dermatitis, mummification, and suppuration resulted. According to Dr. Grünfeld, the parts of the body most fitted for these hypodermic injections are the sides of the trunk and the buttocks as high as the crest of the ilium; the parts least fitted are the extremities, particularly the surfaces of flexors. The general dispersion of these small quantities of corrosive sublimate throughout the organism was proved by the frequent appearance of stomatitis, in several cases after four or five injections; and by the presence of mercury in the urine. The statistics of sixty cases of syphilis treated in this manner furnished several interesting results. The smallest quantity of the salt by which a cure was attained was one grain and three-quarters; the largest quantity was six grains and a half. The smallest number of injections was thirteen; the greatest number, forty-four. The maculous syphilides disappeared after an average number of eight injections; the maculo-papular eruptions, after fifteen injections; and psoriasis, after twenty-five. Dr. Grünfeld has derived from the above investigations the following general conclusions. 1. Subcutaneous injections of corrosive sublimate, applied in cases of constitutional syphilis, furnish favorable results. 2. They have the advantage of perfect precision both in the dose of the agent and in its application. 3. The facility of execution and the slight inconvenience to the patient are important advantages; whilst, on the other

hand, the pain, the inflammation of the integument, and the suppuration, constitute a great disadvantage to this method of cure.

ART. 122.—*On the External Use of Nitrate of Silver in Orchitis.* By E. NOBLE SMITH, Senior House-Surgeon to St. Mary's Hospital.

(*British Medical Journal*, January 30.)

Mr. Smith uses for the first few days evaporating lotions, and gives a purge; he then applies with a brush a solution of nitrate of silver of the strength of one drachm of the salt to an ounce of distilled water, to the surface of the scrotum over the inflamed testicle. In all cases he has found, the following day, great relief to be experienced, and in the majority the pain to have entirely ceased; but the greater part of the swelling and hardness remained; these symptoms are removed subsequently, by attending to the general health, using lotions, and afterwards mercurial ointment—the patient all the while being able to continue his occupation, even when it is laborious. Mr. Smith has generally found one application sufficient; but if there be a slight return of pain, he uses the solution again. Every case which he has treated with nitrate of silver has ended most satisfactorily. The originator of this plan of treatment is Mr. Furneaux Jordan.

ART. 123.—*Nitrate of Silver in the Treatment of Uterine Polypi.* By M. M. EATON, M.D.

(*Medical Press and Circular*, February 24.)

Dr. M. M. Eaton (*Chicago Med. Examiner*) gives his experience in the use of the nitrate of silver in a case of uterine polypi which he treated successfully. The patient was forty-six years old, of a nervous temperament, anæmic, and emaciated. A digital examination revealed two small polypi attached by a long pedicle to the margin of the os uteri. These were soon discharged spontaneously, as she was free from hemorrhage for some months. An examination about a year after revealed the uterus enlarged, and a considerable flow of blood mixed with pus. A sound producing an alarming hemorrhage, a sponge tent was introduced and the os freely dilated. The finger being easily passed in the neck of the uterus, the whole surface was found thickly studded with polypi, from the size of a *grain* of wheat to a hickory nut. To these the solid stick of nitrate of silver was applied, and the sponge tent reintroduced, to act as a tampon. On removing the tent next day, several small polypi came away, and the nitrate of silver was again freely used and the os left open. On the fourth day of the use of the caustic all hemorrhage had ceased, and the tumors in the neck were all found to be detached and discharged. The uterus was then syringed with tepid water, and caustic applied to the suppurating spots where the pedicles had been removed, at the same time giving tonics and good food. This treatment was continued ten days, when she began to flow again very freely, and an examination revealed two large tumors in the cavity of the womb about the size of an orange. Ergot was given to cause contraction of the womb and descent of the tumors, and nitrate of silver was applied locally. By this means the hemorrhage was controlled, but the caustic was applied for about ten days, when by forceps they were removed and the uterus left empty though enlarged. By tonics and generous diet the patient entirely recovered and has had no return of the polypi.

ART. 124.—*On the Use of Coffee in Strangulated Hernia.*

(*Medical Times and Gazette*, January 2.)

Dr. Marchand, in an elaborate article on the therapeutic action of coffee,[1] has collected a sufficient number of cases of strangulated hernia in which this

[1] Article "Café" in vol. vi. of the *Nouveau Dictionnaire de Médecine et Chirurgie*. 1867. Paris: Baillière. London: Baillière and Williams and Norgate.

simple remedy has proved successful, to warrant us in recommending its further trial. It appears that in the Havana coffee has from time immemorial been employed for the reduction of hernias. A French surgeon, Durand (de Batignolles), when residing there, saw it several times applied with success, and on his return home in 1857, he tried the remedy in France. A hernia of thirteen years' standing became strangulated, and all ordinary means, as the taxis, ice, draughts containing belladonna, &c., proved ineffectual; an operation was decided on, when Mr. Durand declared that he knew a sovereign remedy, when he begged to be allowed to try. His offer being accepted, he ordered 250 grammes (about half a pound) of powdered roasted coffee to be added to twelve cupfuls of boiling water, and of this a cup was to be taken every quarter of an hour till eight cups were taken, after which half an hour was to elapse between each dose. After the fifth cup the patient felt gurgling in the tumor, and the ninth cup was followed by the spontaneous reduction of the tumor. This case was published by Triger in the *Gaz. des Hôpit.* for May, 1857, and, as might be expected, not only excited *un vif étonnement*, but led to further trials. In the following year (1858) Meyer reported the case of a man, aged sixty-two, in whom there was spontaneous reduction of hernia after the sixth cup; Czernicki reported a similar case which yielded to the fourth cup; and Barasent described the case of a woman to whom, after twenty-four hours' vomiting, he gave coffee, and whose hernia yielded to the fourth cup.

In 1859 Rouzier-Joly, of Clermont-l'Hérault, published two cases in which he combined the coffee treatment with the local application of belladonna ointment. Although there was intestinal hemorrhage in both these cases, from, as he thinks, the use of too large doses, he adds that we should not, on account of such accidents, renounce a remedy which is "as active as it is successful." In the same year we are told that "Sammert en Angleterre" reported another successful case. We suspect that some evil has befallen our compatriot's name in the hands of the French author.

In 1860 Paultrier, and in 1861 Lamare-Piquot (of Honfleur) and Cellarius, adduced additional evidence of the value of this remedy; but the two last-named writers differ as to its mode of action. The former holds that it acts by occasioning *decongestion* of the strangulated part of the intestine, while the latter thinks that it acts by exciting the contraction of the intestinal fibres, which thus gradually liberates the strangulated portion.

In 1864 Lamare-Piquot published his *Etudes Expérimentales de Médecine et de Chirurgie Pratiques: De l'Action Dynamique du Café et de son Emploi dans les Hernies Etranglées*, and this, so far as we know, is the latest work or memoir on the subject. If the above cases are worthy of credit, which there is no reason to doubt, surely coffee deserves a further trial in strangulated hernia before an operation is resorted to.

Art. 125.—*On the Therapeutical Value of the Peroxide of Hydrogen.*

By Benjamin W. Richardson, M.D., F.R.S.

(*Medical Times and Gazette*, December, 19, 1868.)

The solution of the peroxide of hydrogen, Dr. Richardson says, may be fairly considered a medicine which promotes glandular secretion generally, quickens the action of iron, and which, to a certain extent, represents mercury and iodine as a specific remedy for syphilis. Problematically it may be considered as having an influence on nervous function, preventing or reducing overaction. It deserves on this ground extended trial in epilepsy. It is useful as a means of relief in dyspnœa in cases where there is great destruction of the lung and deficient oxidation; but whether its effect is due to the direct addition of oxygen to the blood, or to a sedative action on the nervous centres, or to the promotion of secretion from the liver and kidneys and the removal of temporary congestion, is not known.

Mode of Administration—Dose.—The solution of the peroxide containing ten volumes of oxygen is the best form for medicinal use; a trace of hydro-

chloric acid in the solution is of advantage, as the acid helps to retain the oxygen. Dr. Richardson prefers alway to prescribe the solution simply with distilled water, for although there are many medicinal substances with which it is compatible if they are chemically pure, it is best not to run the chance of displacement of the oxygen by admixture.[1] The ordinary dose for an adult is from one drachm to four, but this may be gradually increased to six drachms or even an ounce. A free quantity of water should always be mixed with the solution when it is to be taken; if too concentrate it leaves a caustic metallic taste in the throat, and causes eructation.

ART. 126.—*The Hypophosphites in the Toothache of Pregnancy.*

By W. H. STERLING, M.D., of Burlington, N. J.

(*American Journal of the Medical Sciences*, January.)

The following case is related by Dr. Sterling.

"A lady under my care, in her first pregnancy, suffered most severely from toothache and facial neuralgia consequent upon the rapid decay of her teeth, which had previous to this event been very good, been kept with scrupulous care, and had not for years required any attention from the dentist, until about the fourth month from pregnancy, when they began to decay with great rapidity, so that in the course of a month seven were sufficiently decayed to need filling, and the neuralgic pain attendant upon their condition was such as seriously to affect her health.

"The ordinary remedies having been used with but merely momentary relief, it occurred to me as her organization was highly nervous, and nature, with wise provision, ever takes care to supply the fœtus with proper and ample nutrition, even at the expense of the mother—that perhaps the bone and nerve-forming elements in her system were not sufficient to meet the wants of both mother and child, and hence the failure to provide for the molecular changes in the teeth, the material being used for the bony structure of the rapidly growing fœtus. Acting upon this theory, I prescribed the hypophosphites of lime, soda, and potassa, together with the hypophosphite of manganese (having previously given iron), in two grain doses each, three times daily, in the form of the glycerole. The relief was immediate and permanent, the pain entirely removed, and the decay of her teeth was arrested, and her general health was very much improved with the renewal of her physical strength and mental vigor."

ART. 127.—*Papaverin in Mental Affections.*

By Drs. LEIDESDORF and BRESLAEUR.

(*Vierteljahrschrift für Psychiatrie*, 1868; and *British Medical Journal*, March 27.)

The following conclusions have been derived by Dr. Leidesdorf and Dr. Breslauer from investigations made into the sedative and soporific action of papaverin on lunatics. 1. Papaverin acts upon man as a soporific. 2. It lowers the muscular power, and for this reason is beneficial in mania. 3. It diminishes the frequency of the pulse, both in cases where this depends upon violent muscular action, and in melancholic subjects who keep quiet. 4. The sedative action of papaverin is not preceded by a stage of excitement. 5. It does not produce, whether applied subcutaneously or internally, any vertigo or cerebral

---

[1] To oblige Dr. Richardson, Mr. Robbins, of Oxford-street, who has for a long time made the peroxide of hydrogen, tested the compatibility and incompatibility of the peroxide solution with other medicines. He reports it as incompatible with all vegetable tinctures, and with the citrates and tartrates of the alkalies and of iron. With hydrocyanic acid it forms in a few days beautiful crystals of oxamide. With sulphate, chloride, and nitrate salts, decomposition is slow; but on the whole it is best in every case to prescribe the solution direct—*i.e.*, without admixture.

disturbance; it does not cause constipation, but in many cases has a contrary action. 6. The subcutaneous administration of hydrochlorate of papaverin does not cause any prejudicial action at the seat of injection, or in the neighboring parts. 7. The action of papaverin is as a rule manifested slowly, from four to seven hours, in most cases, after the injection; and its power is not quite spent until after from twenty-four to forty-eight hours. 8. Papaverin acts effectually in cases where opium and morphia, even in large doses, have been administered without effect. 9. A toleration of this remedy does not take place early, and an increase in the dose is not required even after a prolonged use. 10. Papaverin acts as a palliative in cases of mental excitement, mania, and loss of sleep; on the mental affection, or rather on the morbid processes on which this depends, it exerts no direct perceptible influence. 11. The improvement in the nutrition of the patients, which takes place in many instances after a long-continued use of papaverin, depends upon the greater tranquillity and the restoration of sleep.

ART. 128.—*Muriate of Lime in Chorea.*

(*Gazetta Med. Lombard.*, January 16.)

Dr. Rodolfi says that, with ample opportunity of treating chorea at the Brescia Hospital, and after trial of the great variety of substances recommended for this purpose, he has come to the conclusion that the best of these is the muriate of lime, preceding its employment by a purgative, composed of castor oil, calomel, and santonine. When no cerebral hyperæmia is present he then begins with the muriate, giving from seven to fifteen grains in the twenty-four hours. Improvement usually follows after the first day, and the cure is completed in from a week to a fortnight. An addition of seven centigrammes per diem of the extract of belladonna augments the efficacy of the muriate.

ART. 129.—*Antigalactic Properties of Belladonna.*

(*The Medical Record*, October 1, 1868.)

Dr. D. W. Stormont, of Topeka, Kansas (*Leavenworth Medical Herald*), mentions two cases of mammary abscess, in both of which the secretion of milk was stopped by the application of belladonna (ext. belladonnæ ʒij, aquæ f ʒj), painted over the breast. The lacteal secretion may be restrained, or entirely dried up, at the option of the physician, in one breast, without producing much effect in the other. Hence he considers it invaluable in mammary abscess, both as a prophylactic and as a curative agent. The patient should be cautioned against nursing the child from the breast to which the belladonna has been applied.

ART. 130.—*The Theory of the Dissolution of Calomel in the Organism.*

By M. JEANNEL.

(*Journal de Médecine de Bordeaux*, Février, 1869; and *Gazette Hebdomadaire*, No. 12, 1869.)

According to the theory of Mialhe, which hitherto has been generally admitted, calomel, in the presence of the alkaline chlorides dissolved in the fluids of the organism, is gradually transformed into soluble bichloride of mercury, which is readily absorbed. M. Jeannel holds that this theory is insufficient, and gives the following views upon this subject:—

The alkaline carbonates are the chief decomposing agents of calomel; in the presence of alkaline fluids fatty bodies dissolve the oxide of mercury derived from the decomposition of calomel; the alkaline chlorides, even in concentrated solutions, cause but a comparatively insignificant decomposition of calomel.

If it be true, as has been indicated by Mialhe, that the chloride of mercury, under the influence of alkaline chlorides and at the temperature of the organism,

always furnishes a more or less considerable quantity of corrosive sublimate, it would still be erroneous to hold with him that it is to this partial transformation that calomel owes its medicinal properties. In reality, a minute portion of administered calomel may be dissolved in the stomach in the presence of acids containing sea salt, but the principal and most considerable decomposition of the mercurial salt is certainly due to the contact of alkaline intestinal fluids. Next intervene fatty bodies. A long series of experiments has demonstrated to M. Jeannel that in the mixed fluids composed of water, an alkaline bicarbonate, and some fatty oil, a very notable proportion of oxide of mercury derived from the decomposed calomel, passes in a state of dissolution into the fatty mass; this oxide then loses the energy of its chemical affinities, and may become emulsionized and absorbed without producing any local irritation. This theory explains how the action of the calomel may be slow and generally inoffensive. This action is almost null whilst calomel remains in the stomach in contact with acid and slightly chlorinated fluids; as soon as the medicinal agent has passed into the intestines, where the presence of an alkaline fluid may give rise to the formation of bichloride, its action will become pronounced, but then the albumen and the fatty mass at once intervene, and weaken or entirely prevent the irritating action of the soluble mercurial salt, and of the oxide resulting from the decomposition of the calomel. The mercury is absorbed in the form of an albuminate of a fatty salt.

ART. 131.—*Report of the Edinburgh Committee on the Action of Mercury, Podophylline, and Taraxacum on the Biliary Secretion.*

By JOHN BENNETT, M.D., F.R.S.E., Convener and Reporter.

(*British Medical Journal*, May 8.)

The steps of the inquiry, and the results brought out, are shortly as follows:—

1. The amount of bile in the fecal evacuations bears no relation to the quantity secreted by the liver. Purgatives certainly increase the amount of unchanged bile in the stools, but this is because they augment the rapidity of its passage through the intestinal canal, and thereby prevent its absorption and decomposition. The idea that inspection of the feces can inform us how much bile is formed, is therefore erroneous. The only method of determining this point is by making fistulous openings into the gall-bladders of animals, tying the common ducts, and measuring the quantity produced.

2. The history of what was previously known as to the amount of bile secreted in dogs, without and with mercury, was undertaken by Dr. James Rogers, a gentleman who had long practised medicine at St. Petersburg. He has an intimate knowledge of continental languages, and has made therapeutics a special study. He shows that, since the days of Haller, there is no well observed fact which indicates that mercury acts as a cholagogue.

3. All the operations were performed by Dr. W. Rutherford, who gives a minute account of the best mode of producing biliary fistulæ, and the manner of collecting the bile. It was not without many failures and repeated disappointments that the experience was acquired which at length enabled the committee to arrive at greater success in a larger number of cases than has characterized any previous investigation of a similar character.

4. A special investigation was next undertaken and carried through by Dr. Rutherford, to ascertain whether the dog was capable of being influenced by mercury in the same way that man is. It would have been obviously useless to have entered upon so laborious an inquiry with this animal, unless that point had been satisfactorily ascertained. It is conclusively shown that the dog is affected by mercury exactly in the same way as man; that he presents the same symptoms when affected by the drug; and that when poisoned by it the same post-mortem appearances are produced. A complete refutation is subsequently given to the opinions of those who imagine that observations on dogs can tell us nothing of the influence of mercurial preparations on the human subject.

5. Thus instructed, the committee succeeded in making the most accurate

observations as to the amount of bile secreted before and after the administration of mercury to dogs, employing all kinds of preparations of that drug, various doses, large and small, and introducing it internally and externally. Permanent biliary fistulæ were established in nine dogs, and the amount of bile secreted, before and after mercury was given, carefully noted daily. During the two years over which the investigation extended, not only were the quantities of bile collected compared with the weight of the animal and the amount and nature of its food, but they were in every case analyzed, and the proportion of liquid, solid, and inorganic matters ascertained. The whole series of observations present us with the most valuable collection of facts now on record with regard to the functions of the liver. In addition to demonstrating that mercury is not a cholagogue, the report points out the influence of purgation on the biliary secretion, its relation to consumption of food, to the weight and to the health of the animal, and in what way it is influenced by muscular movements.

6. With a view of exhausting all that had been alleged concerning the influence of drugs on the liver, the committee investigated, in the same careful way, the action of podophylline and taraxacum; and clearly show that these drugs have not, any more than mercury, the slightest influence as cholagogues.

ART. 132.—*Curare in Trismus and Tetanus.*

By Professor BUSCH.

(*Medical Times and Gazette*, May 4.)

Professor Busch, of Bonn, gives us a record of his experience in the history and treatment of traumatic trismus and tetanus during the Bohemian war of 1866.[1]

The fights in Paris in 1848 brought one thousand wounded to the hospital, but none was attacked by tetanus. During the Schleswig-Holstein war, 1849, a single case came under the notice of Stromeyer. On the other hand, there were 86 cases during the Italian war of 1859, on the Austrian side, as Demme informs us, and even more—namely, 140—on the Italian side. The expedition to the Crimea occasioned the admission to and treatment of 12,094 wounded in the English hospitals, 19 of whom only suffered from subsequent attacks of tetanus. Three hundred and sixty-three such cases occurred during the great American war. The percentage of occurrences is largest in hot climates; for instance, Gilbert Blane states that 30 cases of traumatic trismus and tetanus happened during the West Indian war, when the number of wounded was 810.

Dr. Busch had 21 cases under his observation in his field hospitals. Twelve of them were in the castle of Hradek, where 500 patients were accommodated, 5 in the Lazaretto of Nechanic, where 600 were confined, 2 in Castle Prim, and 2 in Castle Stracow. Dr. Busch believes that special localities and overcrowding favored the attacks. Almost all the cases were gunshot wounds of the lower extremities; this is partly explained by the timely removal to more distant hospitals of those who had wounds of the lower limbs.

The percentage of recovery is larger in tropical climates—at least Blane saved 43 per cent.; of Demme's cases 7 per cent. recovered; 7.4 was the percentage in the American war; of Busch's 21 cases 7 were saved—*i.e.*, 33⅓ per cent. The proportion is the more favorable the less acute the cases are. Where the symptoms become alarming on the first or second day of the attack, where the pulse rises to 90 to 120 beats, and the temperature exceeds 40° C., no hope is left. The intensity of the single attacks, the rapidity with which the convulsions spread from one group to the other, are of bad augury. When, shortly after the first warnings, the neck gets stiff, the teeth cannot be separated, when, soon after, the convulsions reach the trunk and extremities, and the tonic

---

[1] Dr. Busch *On Trismus and Tetanus*, reprinted from the *Transactions* of the Rheno-Westphalian Association for Natural History and Science, 1867. (Verhandl. des Naturh. Vereins für Rheinland und Westphalen.) Pp. 15.

spasms change into clonic, the patients usually die. On the contrary, there is more chance of recovery when the mobility of the neck is only slightly interfered with, when the difficulty of opening the mouth increases slowly, when to the affections of the muscles of deglutition and mastication either no general convulsions supervene, or the muscles of the trunk and extremities suffer only at a late period and moderately. The time the disease lasted varied in Busch's cases from twelve days to a month.

Demme treated 22 cases with curare, 8 of which recovered; Busch 11 cases, 5 of which ended fatally. Of the 6 who recovered, 1 owed his health more to morphia given subsequently to the curare than to the latter. In very acute attacks Busch thinks it is of no use to try curare; he treated his first nine cases with morphia and inhalations of chloroform. He had one remarkably bad case where a quarter of a grain of morphia was injected every two hours, and the patient recovered, contrary to all expectation. The mode of exhibiting the curare was by subcutaneous injection; $\frac{1}{5}\frac{1}{0}$ to $\frac{1}{3}\frac{1}{0}$ grain of the pure article will suffice, injected every two hours. The 11 cases are related in which this was done, and the post-mortem appearances given in some. The author refers to the experiments of Humboldt, Brodie, and Voisin, made on animals, to the treatment of tetanus in horses with curare by Lavell (1810–12), and its first use in men by Vella (1859). The physiological effect of curare is paralysis of the nerves in the muscles; by this the electric currents are impeded from reaching these muscles. It seems that the peripheric ends of these nerves get earlier paralyzed in those muscles affected with electric tension than in those not affected with tetanus.

The improvement of the patients is attested by the decreasing intensity of the convulsions. The patients themselves urgently requested the exhibition of the remedy as soon as they became aware of an imminent spasm by the increased rigidity of the muscles.

The author considers it desirable to employ in future the efficient component part of the remedy—the *curarine*. Sulphate of curarin was exhibited at a subsequent meeting by Dr. Preyer.

Art. 133.—*Tetanus treated with Calabar Bean.*

By Drs. Boslin and Curren.

(*Medical Press and Circular*, Feb. 24.)

Drs. Boslin and Curren (*Chicago Medical Journal*) have treated a case of acute traumatic tetanus of violent character with large doses of morphia and Calabar bean. For a portion of the time, a grain and a half of morphia and three grains of the powdered bean in glycerine were given every hour, with the manifest effect of quieting the patient and relieving the spasm. The patient recovered.

Art. 134.—*Treatment of Traumatic Tetanus by Calabar Bean.*

By C. Holthouse, F.R.C.S.

(*British Medical Journal*, March 6.)

At a meeting of the Clinical Society of London, held Feb. 26th, Mr. Holthouse related two cases of traumatic tetanus in which the Calabar bean extract was given in larger doses than had hitherto been considered compatible with safety, viz., three grains every two hours, and on one occasion as much as four grains and a half in a single dose. The first case, in which the large doses were given, recovered. The second, which was of a more acute character, died on the fourth day of the seizure, notwithstanding the physostigma had been given from the very first accession of the symptoms in grain and a half doses every hour, and the patient was for the greater part of the time fully under its influence. He remarked that, with our present knowledge of the pathology of tetanus, a successful issue could scarcely be looked for in those cases in which

the peripheral nerves were deeply implicated, unless they could be acted on simultaneously with the cord. The Calabar bean diminished the excitability of the latter and of the motor nerves, but did not affect the sensory nerves; we wanted a remedy which would act similarly on these, and possibly opium, from its known paralyzing effect on the nerves, might do this. The chief points of interest in the fatal case, in which the knee-joint was laid open by a large lacerated wound, were the almost entire absence of constitutional symptoms till the accession of the tetanus, and the absolute immunity from painful cramps which constitutes so striking a feature of the disease.

Mr. Bryant referred to a case in which he thought that the fatal result was due to the influence of the Calabar bean. He thought very ill of treatment in acute tetanus, but drew attention to the possible utility of tracheotomy as preventible of the risk of death from spasm of the glottis.

Mr. Maunder in two cases failed to gain anything from the use of the Calabar bean; he had found more help from opium. Tetanus did not, he considered, especially attack the larynx, and he doubted if much good would come from tracheotomy, although it was an operation he thought deserving of a trial.

In reply, Mr. Holthouse observed that in tetanus patients either died suffocated during a paroxysm, or they died of exhaustion. If this suffocation was from spasm of the glottis, then opening the trachea would undoubtedly prevent death from that cause, but it was equally probable that death during the paroxysm arose from spasm of the diaphragm, and possibly of all the respiratory muscles. The symptoms which Mr. Bryant had detailed as occurring in his case were those which always precede death from exhaustion. Mr. Holthouse did not believe that the Calabar bean had anything to do with the death.

Mr. Callender referred to cases of tetanus treated by Mr. Wormald by active aperients, and to the good results which were thus obtained in many instances

PART II.—SURGERY.

SECT. I.—GENERAL QUESTIONS IN SURGERY.

ART. 135.—*On the Treatment of Carbuncle.*

By JAMES PAGET, D.C.L., F.R.S., Surgeon to St. Bartholomew's Hospital.

(*The Lancet*, January 16).

Mr. Paget is opposed to "free incisions." He fully believes that *crucial* incisions do not prevent extension; that it is only a limited set of cases in which the incisions diminish pain; and that with regard to the time that is occupied in healing with or without incisions, the healing without incisions is very clearly and certainly a great deal quicker.

Another method which Mr. Paget has occasionally tried, but of which he can only state the same general results, is that of subcutaneous incision. This has been supposed to have the same general effect as the other; and he thinks that the same general conclusions may be drawn respecting it: that it is a measure unnecessary in the treatment of carbuncle, and that it retards rather than hastens the healing. When Mr. Paget speaks thus of the incision of carbuncles, however, he does not mean to say that there is no condition of carbuncle in which an incision is not useful. Sometimes a carbuncle sloughs in its central part, with one continuous slough of integument holding in a quantity of pus. In that case you would cut through the slough, or through any adjacent part of the carbuncle to let out the pus, as you would open an ordinary abscess. But this is not a measure which is commonly understood by the "incision of a carbuncle."

"In local treatment," Mr. Paget says, "one of the best things you can do, if the carbuncle is small, is to cover it with emplastrum plumbi spread upon leather, with a hole in the middle through which the pus can exude and the slough can come away. That, occasionally changed, is all the covering that a small carbuncle will need. It is difficult thus to cover the whole surface of a large carbuncle, and to keep it clean; therefore, I think that the best application for that is the common resin cerate. This should be spread large enough to cover the whole carbuncle, and over it should be laid a poultice of half linseed-meal and half bread. And, if you want to exercise your skill, learn to make that poultice well, and to put it on well, and to keep it in its place well. That mode of dressing the carbuncle, so far as the materials are concerned, will last through its whole course; but whilst the carbuncle is making progress and discharging its slough you will find plenty of room for the exercise of considerable skill in dressing it, and filling up the cavities with soft substance spread with this ointment. Besides this, the carbuncles are to be carefully washed, especially with some deodorizing substance, as Condy's fluid, or weak carbolic acid, and the cavities may be syringed out with it. The importance of cleanliness is very great. With regard to diet, I am certain that there is no good to be obtained by large feeding or abundant stimulant. Of medicines I say nothing. Quinine, bark, and other medicines of that class, may be given if you please, or in case of evident need, and so many aperients; but there is really no need of them in an ordinary case of carbuncle. But there is one medicine which you may find very valuable, and that is opium, especially in all the earlier painful stages of carbuncle, in which it relieves the suffering as thoroughly as incisions, or anything I know. After the early stages even that is unnecessary, except for some patient who may be unable to sleep.

"But there is one measure in the treatment of carbuncle which is seldom employed, and yet is of great importance, and that is letting the patient have

very free air. The general idea that carbuncles are very dangerous diseases has commonly led to the patients being entirely confined to bed and kept shut up in their rooms."

Art. 136.—*Experimental Studies on Burns.*

By Dr. Gustave Wertheim.

(*Medizin. Jahrb. der k. k. Ges. d. Aerzte in Wien*, 1868; *Gazette Hebdomadaire*, No. 42, 1868.)

The most simple lesions may present on investigation many unexplained or imperfectly recognized points. This fact is demonstrated by the researches of Dr. Wertheim on burns. This observer has made a series of experimental and histological investigations on dogs of which the following are the principal results. The experiments were made on animals of medium size, and the cauterization or burning was caused by means of essence of turpentine or of boiling water, the dogs having been previously narcotized by chloroform or by the injection of tincture of opium into the crural vein.

Cauterizations or burns cannot be repeated often without compromising the life of animals. Generally after five or six experiments with burning the chest or abdomen the dogs died, sometimes in six days, sometimes in a few hours, according to the intensity of the cauterization.

The special *rôle* of the form of lesion was placed in relief by regulating experiments, in which parts of the skin corresponding in extent to that destroyed by burning were removed; in these cases the wounds were soon covered by granulations. In some dogs, two, five, and fourteen hours after cauterization the whole of the mortified part was removed. All the animals thus treated died in twenty-four hours.

The influence of burns upon the temperature is very remarkable. The temperature was taken by means of a thermometer slipped under the integument and pushed as far as the region of the cauterized tissues. The temperature, which was generally about 35 degrees Centigrade in the normal condition, was raised in different cases to 54, 56, 64, and even 73 degrees Centigrade.

Every fresh cauterization produces an elevation of temperature. This is maintained for a short time, but the temperature gradually becomes normal in about an hour, or even a half hour. When the cauterization extends over an extent of about two inches, the general temperature of the animal is raised above the normal standard. The histological changes were carefully studied. With regard to the integument, there is carbonization of the horny epidermic layer, and of part of the layer of Malpighi. The structure and elements of the papillary bodies, on the other hand, are maintained. By the side of the capillaries may be seen abundant deposits of melanine in the form of molecular granulations or rounded masses. After repeating the experiment on the skin of a corpse, changes are observed in the epidermis, which are altogether analogous, but the deposits of melanine in the dermis are no longer so abundant; there is scarcely more than some traces of this substance. The kidneys, in all cases where the animal has succumbed after repeated burning, are the seats of a degeneration which presents the characters of acute desquamative nephritis. In the corpuscles of Malpighi are found coagula, in which the blood elements are amorphous, agglutinated, or tending towards the crystalline form.

In one case the capillaries of the arachnoid contained a number of crystals formed from the blood. In other respects the blood changes constitute one of the most constant anatomical characters. The blood contains a considerable quantity of corpuscles, from the size of from four to one millimetre, and even less, almost representing molecular granulations. Those corpuscles, from their color and from their chemical and optical characters, ought to be considered as formed by the red corpuscles of the blood changed by the high temperature of the burnt parts. These changes exactly resemble those which have been described by Dr. Max Schultze, who examined the blood of different animals and of man. In severe burns the temperature of the parts contiguous to the

eschar often attains a height of 52 degrees, and remains at this point for nearly half an hour. During this time the blood circulates and the globules undergo morbid changes. This is the only possible explanation of the above-mentioned phenomenon, according to Dr. Wertheim, who, foreseeing that the changes might be attributed to the injection of tincture of opium into the veins, made analogous investigations under chloroform, when the same morbid changes were found.

It is interesting to consider these results in connection with those which have been gained from experiments made on congelation, and which also demonstrated blood changes in the congealed parts. It will then be seen that the theoretical explanation, admitting in cases of burns and of congelation the possible transport of altered elements, is now supported by a series of experiments, and that capillary embolism in injuries from cold, as well as in burns, are the cause of many of the serious complications of these lesions, such as duodenal ulcerations, pulmonary and renal infarctions, &c.

ART. 137.—*On the Treatment of Wounds by the Application of Carbolic Acid on Lister's Method.*

By TIMOTHY HOLMES, F.R.C.S., Surgeon to St. George's Hospital, and Lecturer on Surgery; and W. B. HOLDERNESSE, House Surgeon to the Hospital.

(*St. George's Hospital Reports*, vol. iii.)

In this paper Messrs. Holmes and Holdernesse relate the results of the application of carbolic acid in the practice of the former surgeon, and in the out-patient room. The results, it is stated, are not in themselves striking; nor can it be affirmed decisively that they are better than would have been attained under the ordinary methods of treatment.

ART. 138.—*On the Antiseptic Treatment of Wounds.*

By WILLIAM MACCORMAC, M.A., M.D.; Fellow of the Royal College of Surgeons in Ireland; Member of the Senate of the Queen's University in Ireland.

(*Dublin Quarterly Journal*, February.)

The results Dr. MacCormac at first obtained after the carbolic acid treatment were, he states, not so satisfactory as he had been led to anticipate; but on further and more careful trials, more decided benefits were realized, so much so as to lead him to attribute his previous ill success to want of familiarity with the method, or perhaps to some carelessness in the application of the dressings. The mode of dressing he has usually employed is not so complicated as that of Professor Lister, since the use of putty or plasters is, in most instances, dispensed with. The wound, all hemorrhage having been carefully stanched, is first washed out with a weak solution, one part in thirty of carbolic acid, the edges are then coapted, and several layers of lint, soaked in carbolic oil, one part in four, applied. The only other precaution needful is to keep the lint daily freshened with oil, and in this way its antiseptic properties seem thoroughly preserved. In cases of compound fractures the simple superposition of some folds of lint soaked in oil, has proved adequate to prevent septic change, without injecting the acid into the wound. In these cases there is usually profuse hemorrhage, and when the wound is small the air is washed out with the blood, so that it appears to him to be in most instances unnecessary, and therefore undesirable, to inject the acid. When abscesses are opened Dr. MacCormac does not generally think it needful, before incising them, to apply an antiseptic veil of lint. The tension of the parts causes the pus to jet out with more or less force, and so long as any regurgitation of air is prevented no harm can accrue.

Dr. MacCormac gives the details of several cases in which he has used carbolic acid dressing. He has employed it in various ways to wounds, after opening abscesses, as an application to non-infecting venereal sores, and to phagedenic and other ulcers, with very beneficial effects. Sometimes he has met with disappointment, but generally the results have been extremely satisfactory and encouraging.

The conclusions Dr. MacCormac is disposed to draw in respect of the surgical uses of carbolized dressings are—first, that by their means those conditions which promote the formation of pus are sometimes wholly prevented, at other times greatly diminished in power, and that when pus is formed it proves an innocuous fluid, not prone to decomposition, and not injuring by its presence the wounded surface with which it is in contact. Secondly, he thinks the amount of pus is diminished where suppuration does occur. Thirdly, he has been much struck by the absence of those results of serious injuries, which so usually ensue both in the neighborhood of the wounded parts and constitutionally. He has observed over and over again the almost total absence of pain, inflammatory swelling, and surgical fever where such might otherwise have been expected to occur. In extensive injuries, involving the deeper-seated parts, it has appeared to him that those structures heal more readily, and that the wound soon becomes merely superficial, a granulating surface closing in and protecting the tissues beneath. When this result is attained it then becomes no longer necessary to continue rigidly the antiseptic treatment, and the wound may be treated like any ordinary superficial ulcer, with such applications as may appear best suited to promote healing, amongst which the carbolized lotion should occupy a high place. Fourthly, Dr. MacCormac is disposed to believe that pyæmia will become comparatively of rare occurrence, but to establish this as a certain fact, he says, will require a very long series of observations.

Art. 139.—*A New Surgical Dressing.*

By D. Hayes Agnew, M.D.

(*Pennsylvania Hospital Reports*, 1869.)

"A few months since my attention was drawn by Dr. Studdiford, of Lambertville, New Jersey, to a form of paper which had been manufactured, for some purpose (I know not what), by a firm in his town. It was constructed from colored rags decolorized by chloride of lime, and the pulp passed into sheets. The doctor thought it might be used as a surgical dressing, and had, I believe, actually applied it in a case of amputation. Being on duty at the time in the hospital, a favorable opportunity was offered for a practical test of its value. We had some prepared as soft as possible in its texture.

"The first experiment I made was designed to determine its absorbent property as compared with lint. Two strips, the one of lint and the other of the paper, were cut of equal length and breadth; these were suspended over vessels containing the same quantity of water. As soon as the strips and water were brought in contact the imbibition commenced, that of the paper with great rapidity, that of the lint slowly. When their thorough saturation was completed it was found their capacities were equal, with the important difference of one-half in time in favor of the paper; that is to say, square inches of paper and lint will receive just equal quantities of fluid, but the paper will take its equivalent in one-half the time required by the lint.

"A second experiment was performed, in order to determine the cohesiveness or strength of its texture. A piece of the paper was saturated with moisture, crushed together roughly, and then thrown into a vessel of water, and allowed to macerate for several hours. When removed it was unfolded and spread out into its original form, without separation in the continuity of its parts.

"Desiring next that this dressing should have a surface impermeable to moisture, I desired the manufacturer, through my friend Dr. Studdiford, to apply a thin film of rubber over one surface. This was soon done, and so neatly as in

no way to destroy its pliancy. Thus prepared I have used it in the hospital, and claim for it the following advantages:—

"1. It is the cheapest dressing, costing from twenty to twenty-five cents per pound, while lint costs two dollars per pound. These figures, however, do not exhibit the proper difference, as the paper is almost double the weight of the lint; but estimating it at double, it would stand—lint two dollars per pound, paper fifty cents per pound.

"2. It absorbs so much more rapidly than lint that wounds are kept freer from their secretions and discharges.

"3. Where lotions are required and evaporation avoided, the paper answers both ends, by having one surface water-tight, thus rendering the usual covering of oiled silk unnecessary, another item of saving, and one of no inconsiderable amount in a hospital."

ART. 140.—*The Treatment of Joint-Affections by Continued Extension.*

By Professor VOLKMANN.

(*British Medical Journal*, March 27.)

Professor Volkmann reports favorably of the method of continued extension in the treatment of diseases of certain joints. He has applied it with great success for hip-joint disease and affections of the vertebral column. In disease of the knee-joint, the results of this proceeding have not been found equally satisfactory. The cases in which continued extension was practised by Volkmann were generally those of acute, painful, and rapidly progressive coxalgia, and Pott's disease of the spine without much deformity. Anchylosis, extensive infiltration of the soft parts, periarticular suppuration, and chronic disease accompanied by formations of granulations between the bones, are all contra-indications of this plan. The application of a weight, generally a sand-bag, to the extremity of the affected limb, in disease of the hip, removes pain and the tendency to muscular contraction, and also, by bringing the femur parallel to the axis of the body, serves to prevent great deformity and a faulty position of the thigh with regard to the pelvis. Professor Volkmann bases his practice upon the view that ulceration in joint-disease is produced by the close contact and pressure of inflamed synovial and cartilaginous surfaces. This, he thinks, is proved by the facts that the caries is most intense at the hard parts placed in contact, and that a cure is generally brought about after the luxation of the limb, after resection, and even after removal of only one of the diseased articular surfaces.

ART. 141.—*Forced and Prolonged Flexion of the Limbs in Traumatic Hemorrhage.*

By M. VON ADELMANN.

(*Presse Belge*, January.)

M. von Adelmann, of Dorpat, in a paper laid before the Belgian Academy of Medicine, and founded upon ten cases occurring in his practice, arrives at the following conclusions: 1. Forced flexion is a valuable means of arresting traumatic hemorrhage. 2. It should be employed before having recourse to other hæmostatic agents. 3. It may be resorted to even in cases in which ligature of the artery has failed. 4. A knowledge of its mode of application should be popularly diffused, so as to allow of its being at once adopted while awaiting the arrival of the surgeon. 5. Such knowledge may also be very useful in armies. 6. It is very desirable that manuals of surgery should bring the subject into prominent notice.

ART. 142.—*On the Treatment of Suppurating Joints by Free Incisions.*

By THOMAS BRYANT, F.R.C.S., Assistant-Surgeon to Guy's Hospital.

(*Medical Times and Gazette*, May 15.)

The practice of making a free incision into a joint, Mr. Bryant writes, is only justifiable when disorganization or suppuration has taken place, whether that suppuration be the result of a chronic disease or of an acute one following a wound of the articulation.

In acute suppuration of a joint the result of a wound, the author believes there is no better practice to be followed. A free incision into the articulation under most circumstances not only is the best local treatment, but the best general, for it seems to be true that, as soon as a free outlet for pus has been made, surgical fever, although intense, may be expected to subside, and local symptoms to pass away. The incisions when made should, however, be free, that the escape of pus may be complete. By this practice joints will be often saved, and movement secured.

In disorganization of a joint, the result of chronic disease, the plan of treatment by a free incision is not, however, so simple; for its value, as already indicated, depends much upon the original seat of the disease. When the disorganization of the joint has been secondary to disease in the articular extremity of the bone, to acute or chronic inflammation terminating in necrosis, partial or complete, it is not to be expected that a recovery is to take place by giving free exit to the suppuration in the joint, for the cause of this suppuration will remain after the adoption of the practice, and thus keep up the irritation and prevent a cure. The incision may relieve the symptoms, but will not cure the disease or do much towards hastening anchylosis. Nothing but the removal of the diseased bone, either after incision, as in an ordinary operation for necrosis, or by resection, will be of use; for the disorganization of the joint is clearly the result of disease of the bone, and the seat of the disease must be made out before the correct treatment can be applied. An incision as an exploratory operation may, however, be of use in the case, for it may facilitate the removal of the diseased bone, and thus hasten recovery. When, however, the disorganization of the joint has been the result of disease in the synovial membrane, the value of a free incision into the articulation is very great, for in these cases, although the disorganization may be complete, the disease in the bone will probably be only superficial, and will rarely be found to extend far into the cancellated tissue. The disease in the bone is the result of synovial mischief, and will consequently recover when the source of disease has been removed, and the pus has been evacuated from the joint. Indeed, it is in disease of the synovial membrane of the pulpy kind, in which suppuration has taken place, that this practice of making free incisions into the articulation is carried out with the greatest advantage. Several cases are related in which the truth of these remarks is demonstrated.

ART. 143.—*A Case of Tetanus following Compound Fracture of the Arm; Recovery.*

Under the care of Mr. TATUM, St. George's Hospital.

(*The Lancet*, December 19, 1868.)

The following very interesting case illustrates the successful treatment of traumatic tetanus by the subcutaneous injection of atropine and morphia.

George B., aged forty, a cab-driver, was admitted into St. George's Hospital, having fallen from his cab whilst drunk. The lower end of the right humerus was fractured in several places, one fracture apparently running into the joint. On the inner side of the arm, a short distance above the inner condyle, there was a wound an inch long, communicating with the fragments. The limb, which was much bruised and

swollen, was put up in an angular splint, and the patient was placed upon ordinary diet and a pint of porter. He went on well until the fifteenth day, when he complained of pain in the arm and stiffness of the jaws, which gradually increased; and two days later—namely, on Jan. 30th—he was unable to open the jaws more than half way. There was, however, no stiffness of the neck, or pain in the epigastrium; and his countenance and demeanor were tranquil. The bowels being confined, a turpentine enema was administered.

The patient continued in much the same state until the 2d February, when his appetite began to fail, and the trismus slightly increased. He was ordered wine and eggs, and at 10 P. M. was injected with $\frac{1}{40}$ gr. of sulphate of atropine.

On the following day the jaws were firmly closed; the arm "jumped" a great deal, and he had slight vertigo. The pupils were somewhat dilated. The injection was repeated at 10 A. M. and 10 P. M., a blister applied to back of neck, and nutrient enemeta ordered.

Feb. 4th.—The arm still "jumps;" has twitchings of all the limbs, and pain in the epigastrium. The jaws will allow the protrusion of the tip of the tongue, which is clean and moist. Pupils less dilated; pulse 72, weak; respiration 20; temperature in axilla 97°.7. At 3 P. M., $\frac{1}{30}$ gr. was injected, and at 7 P. M., $\frac{1}{25}$ gr.

5th.—Has had a very restless night; the trismus remained, and deglutition was difficult; the mouth drawn to the right side; pulse 84, soft; respiration 24; temperature 98°.1. $\frac{1}{20}$ gr. was injected at 1 A. M. and 10 A. M., and $\frac{1}{40}$ gr. at 2.20 P. M. The turpentine injection was repeated.

6th.—Was very restless during the night; the trismus continues, rendering it difficult to get anything into the mouth, but there is no pain in swallowing. Still has pain in the arm and twitching of the limbs; tongue rather coated; pulse 104, soft and small; respiration 22; temperature 98°.2. At 10 A. M. and 10 P. M., the injection of $\frac{1}{20}$ gr. was repeated; brandy, four ounces; beef-tea, four pints.

7th.—Passed a less restless night; the spasms are more frequent and severe; trismus same; tongue coated; no appetite; pulse 112, soft; respiration 24; temperature 98°.1. Sulphate of atropine, $\frac{1}{60}$ gr.; bimeconate of morphia, $\frac{1}{6}$ gr.; distilled water, six minims. Mix; send two drachms of this solution. At 10 P. M. seven minims of solution were injected.

8th.—Patient slept during the greater part of the day, and he was not disturbed for the purpose of taking notes; spasms reported to be less frequent and severe. Brandy, eight ounces daily. The injection was repeated at 10.30 A. M., 4.15 P. M., and 10 P. M.

9th.—The severity of the spasms has decreased, and there is less twitching of the limbs. The trismus is well marked, and the sterno-mastoid muscles are rigid, but there is no opisthotonos or pain in the epigastrium. Skin cool and moist; bowels open; pulse 112, soft; respiration 21; temperature 99°.4. At 10 P. M. the injection was repeated.

10th.—Has had a restless night; occasionally has sharp pain in the left side of the abdomen. The arm aches a great deal, but there is less trismus and rigidity of the sterno-mastoids, and the spasms generally are much less distressing; sweat acid; bowels open.

11th.—The arm and elbow are a good deal swollen; tetanic symptoms improved.

12th. The arm is more swollen; the spasms are diminishing; deglutition fairly easy; pupils normal; pulse 96; temperature 99°. At 10 A. M. and 10 P. M. the injections were repeated.

During the next two days the symptoms continued about the same. The extensors of the thighs were chiefly affected, and the slightest touch would bring on spasms. The swelling of the arm increased. The injections were repeated morning and evening. A turpentine enema was administered.

15th.—An abscess was opened on the inner side of the elbow, from which a considerable amount of fetid pus escaped. Pulse 92, weak; respiration 20; temperature 99°.3. Injections repeated as before.

The next day patient was much the same; and on the 17th, the trismus had almost gone; there was no risus, the muscles of the neck were lax, and there was but little spasm of the limbs; appetite good; skin cool and moist; tongue clean; bowels open; pulse 112; respiration 24; temperature 100°.3. Injection repeated at midnight.

On the following day there was an increase of the spasms, and there was slight trismus; pulse 100, weak; respiration 20; temperature 98°. At 12 P. M. the injection was repeated.

On the next day the spasms had ceased, and from this day the patient gradually improved. The muscles of the limbs, however, were occasionally attacked by spasm, more especially the extensor of the thighs; and there was more than once a recurrence of trismus, with rigidity of the muscles of the neck. By degrees all these symptoms subsided, and on the 25th the patient was able to sit up in bed. Several times at about 3 A. M., he suffered from slight pain in the elbow and front of the thighs. On the 28th there was a total absence of all tetanic symptoms, and there was no recurrence of them after this date. On March 13th the patient was discharged, with his general health fairly good.

There was a great deal of thickening of the lower end of the humerus, and slight shortening of the arm; but there was some amount of motion of the elbow-joint.

ART. 144.—*Researches on the Results of Section and Resection of Nerves in relation to the state of Sensibility of the Integuments and of the Peripheral Extremity of the Divided Nerve.*[1]

By MM. S. ARLOING and TRIPIER.

(*Gazette Hebdomadaire*, No. 50, 1868.)

A certain number of clinical facts have recently been published, which tend to demonstrate that after solutions of continuity, whether simple or with loss of substance, of the median nerve, the sensibility does not completely disappear or very rapidly return over those parts to which the nerve is distributed.

These observations are in contradiction to the rules established by physiology, and the experiments undertaken for the purpose of verifying them have as yet given but negative results. Investigations have been commenced by the authors with the intention of reproducing the phenomena described in the clinical observations, and finding for these some rational explanation. The researches were made on the spinal nerves, and on those especially which pass to the thoracic limb. The animals experimented upon belonged to different species; but all were not equally favorable subjects for this kind of investigation. The following results were presented by dogs.

For the success of experiments of this kind it is very important to dispense with the employment of anæsthesia, in order to avoid profuse hemorrhage, and moreover to allow a certain interval (one hour and even more) between the time of the operation and the time of examination.

The experiments have been arranged in two great groups. Those of the first group relate to the state of sensibility of the integument; those of the sscond to the sensibility at the peripheral extremity of the divided nerves.

The experiments show that sections of certain nervous trunks do not induce complete insensibility of the integuments; that the peripheral ends of the three nervous trunks supplying the palm of the hand remain sensitive, provided that one of the trunks remain intact, and that the sections be performed about the middle of the forearm; and finally, that the peripheral end of a terminal branch of one of these three nerves remains sensitive if the trunk which has supplied this branch is not cut through, whilst the sensibility of this peripheral extremity disappears with the radial and ulnar as soon as the corresponding trunk is divided.

The authors speak of some new clinical facts which are of great importance. The first occurred to a young man, who after a wound at the root of the thumb was attacked with painful cramps in the whole of the limb, and exaggerated flexion of the hand. Very soon trismus came on, and the median nerve was then divided at the upper third of the arm. Two hours after this operation, the persistence of sensibility could be made out in the regions of the hand supplied by the median nerve. The investigations were made by grazing the parts with a resisting body, by pricking and pinching. The sensibility to cold and heat disappeared. The tetanic symptoms afterwards increased in intensity, but finally disappeared at the end of the first week.

---

[1] Communicated to the Académie des Sciences.

The subject of the second case was also a young man who in a fall received a contused wound of the lower part of the forearm and of the front of the hand; the tissues were so much contused that the surgeon was obliged to cut away some flaps of skin, fragments of tendon, and the two ends of the divided median nerve. As a result of this, there was a loss of substance of the median nerve amounting to four or five centimetres. Sensibility persisted, as in the preceding case.

The third case was one of a man advanced in years who, independently of a cardiac affection with concomitant respiratory disturbances, suffered from neuralgia of the external part of the leg. The endermic application of narcotics in very large doses had failed to give any relief, and the patient cried out by day and night. The external saphenous nerve was divided at the lower part of the limb, and six hours afterwards the inferior end was resected. Before the resection was performed, the peripheral end was irritated, and on two different occasions was found sensible. On the same occasion there was even a movement of flexion of the foot upon the leg, with very marked increase of the pain. The neuralgia did not cease.

By applying these clinical facts to the physiological results obtained by MM. Arloing and Tripier, a perfect concordance is found to exist between them. Thence it results, with regard to therapeutics, that neurotomy, whether simple or with resection of nerve, should not be much relied on in nervous affections without appreciable lesions (tetanus, neuralgia, &c.), as the nervous transmission still continues in action.

Art. 145.—*Acute Rheumatic Affections of the Joints: their Pathology and Treatment.*[1]

By William Adams, F.R.C.S., Surgeon to the Royal Orthopædic and Great Northern Hospitals, &c.

(*Medical Times and Gazette*, February 6, 1869.)

After referring to the great advance made in the modern treatment of joint diseases—a result obtained by our more exact knowledge of structural anatomy and the physiology of nutrition, as well as the study of inflammation in its physiological and pathological bearings—Mr. Adams proceeded to consider whether the classification and description of joint diseases should be made upon an anatomical or pathological basis. He preferred the pathological arrangement, considering that the anatomical basis might lead to a much too narrow view of the pathology of diseases of the joints in reference to the constitutional conditions upon which they depend.

As some authors consider the synovial membrane and the cancellous tissue of the bone to be the only structures liable to primary inflammation, Mr. Adams produced some evidence to show that both the ligaments and articular cartilages were frequently the primary seat of disease, *the ligaments* suffering from inflammation after sprains and injuries, which, when occurring in strumous constitutions, frequently led to complete destruction of the joint, as seen in hip-joint disease, which, Mr. Adams believes, generally commences in the round ligament.

The articular cartilages are liable to changes of nutrition, scarcely separable from the effects of inflammation in its more chronic form, such as fibrous degeneration, and also hypertrophy and subsequent ossification, which Mr. Adams first pointed out as occurring in the production of osteophytes in chronic rheumatic arthritis. They are also believed to be the seat of true inflammatory changes, as represented by the textural changes of cell nutrition; and Professor C. O. Weber considers that suppuration may occur in the texture of articular cartilage. Mr. Adams, however, expressed some doubt upon this point, though admitting the other inflammatory changes.

---

[1] Abstract of Lettsomian Lectures delivered before the Medical Society of London in 1869.

A very large proportion of all the cases of joint disease met with in practice are associated either with a rheumatic or strumous constitutional condition, and the influence which these constitutional conditions exert on the local affection, Mr. Adams proposed to make the special subject of the present lectures, thus regarding joint diseases from a constitutional point of view.

The first, and indeed the great question to be considered is—To what extent is the inflammatory process, when affecting the joints, modified with respect to its results or so-called terminations in adhesion, suppuration, and ulceration by the constitutional conditions of rheumatism and struma? Mr. Adams believes the general law of rheumatic and strumous inflammation to be, that, in the rheumatic form, whether acute, subacute, or chronic, there is no disposition to the destructive processes of suppuration and ulceration, whilst a disposition to these destructive processes constitutes the chief pathological characters of the strumous inflammation.

Does suppuration ever occur during the progress of acute rheumatic inflammation in the joints, the eye, the pericardium, or pleura, or in any other structures of the body? Mr. Adams considers that suppuration never does occur as the result of rheumatic inflammation in any organ or tissue of the body, but that rheumatic inflammation always exhibits the same tendency to terminate in the effusion of serum and plastic lymph, and that by the organization of the latter adhesions are formed.

In the eye, the ophthalmic surgeon has no fear that rheumatic iritis will terminate in suppuration or ulceration; its termination in adhesion is constantly seen, and its prevention is the chief object of treatment. In the pericardium and pleura, when attacked by rheumatic inflammation, the physician looks forward to the same termination. Rheumatic inflammation, therefore, exhibits itself essentially as a productive process, and strumous inflammation essentially as a destructive process.

In the general pathology of rheumatism it is of importance to ascertain whether there are any modifying influences which may alter the ordinary progress and termination of rheumatic inflammation. The most important modifying influences are those of struma, syphilis, gonorrhœa, and leucorrhœa. Of these it may be said that none of them produce any essential modification as to the results of the rheumatic inflammation. No tendency to suppuration or ulceration is induced by any of these complications, but still each of them exerts some special influence on the progress of the rheumatic inflammation.

Mr. Adams then proceeded to the description of

ACUTE RHEUMATIC SYNOVITIS,

its general characters, symptoms, and progress. The doubt expressed by the late Dr. Todd as to the true inflammatory nature of the joint affection was removed by reference to the post-mortem examinations of several patients who had died from cerebral or cardiac complications of rheumatic fever, from the fourth to the twenty-fifth day. In all these examinations the morbid appearances were essentially of a similar character—viz., inflammation of the synovial membrane, with effusion into the joint of serum, with albuminous shreds or flocculi of lymph floating in it. In no instance was the existence of pus or of any ulceration of the articular cartilage described. Mr. Adams regretted that so few post-mortems were on record in which the joints had been examined in patients who had died during an attack of rheumatic fever.

In the treatment he spoke of the value of the hot-air bath, applied whilst the patient is in bed, and alkaline fomentations to the inflamed joints. The action of alkalies, both externally and internally, he believed, was not so much in neutralizing the excess of acid in the system as in their tendency to fluidize the blood by their direct chemical action upon the fibrin, which is known to be much increased in quantity in this affection. The effect of this in the local application was to remove the condition of stasis of the blood corpuscles, always existing in inflammation. The action of mercury was also discussed in reference to its power of diminishing the quantity of lymph effused, of preventing its organization, and promoting its absorption, especial reference being made to the experience of ophthalmic surgeons in the treatment of rheumatic iritis.

The next affection described by Mr. Adams was that of

ACUTE RHEUMATIC SYNOVITIS, IN AN AGGRAVATED FORM, LOCALIZED IN ONE JOINT DURING THE EARLY STAGE OF RHEUMATIC FEVER—GONORRHŒAL OR GENITAL RHEUMATISM.

These cases at their commencement exhibit the ordinary symptoms of rheumatic fever, but instead of metastasis of the articular inflammation occurring, the inflammation in an aggravated form quickly localizes itself in one joint, usually the knee or the hip-joint, so that the joint affection quickly becomes the predominant feature. The acute symptoms generally continue from three to five months. Suppuration is often feared, but no liability to this process exists. It terminates neither in suppuration nor ulceration, but in the effusion of lymph, and organization of adhesion within and surrounding the joint. A specimen exhibiting these conditions was shown to the Society.

The most frequent cause of this affection is the previous existence of gonorrhœa, but sometimes a history only of leucorrhœa can be traced. Hence the propriety of the term genital rheumatism.

The explanation of these cases depending upon a mild form of purulent infection, was considered by Mr. Adams as very doubtful, as only one joint is usually affected, and there is no tendency to suppuration; whilst in pyæmia several joints are generally involved, and suppuration constantly follows. The pathology is therefore obscure.

The constitutional and local treatment are the same as in the ordinary form of acute rheumatic synovitis, but the intense pain can be best relieved by the subcutaneous injection of morphia. Possibly the American plan of extension by weights, proved to be so successful in removing the most acute pain of hip-joint disease, and also the pain in some cases of inflammation of the knee-joint, might meet with equal success in this affection, and is worthy of trial.

For the removing of the remaining stiffness of the joint the use of the steam-bath, shampooing, and passive motion was recommended to be commenced early, and, if these failed, forcible extension under chloroform was to be used, and repeated every two or three weeks, very little being attempted each time; the restoration of motion thus being very slowly and gradually obtained.

Subacute and Chronic Rheumatic Affections of the Joints: their Pathology and Treatment.

This form of rheumatic inflammation, Mr. Adams observed, most frequently occurs in young adults, free from gouty tendency. The knee-joint is generally affected, and the form of the swelling corresponding to the synovial sac is diagnostic; fluctuation is distinct; there is some increase of heat, and a little pain, but no redness of the skin. It has no disposition to suppuration or ulceration, but generally terminates in resolution with slight stiffness of the joint, which is gradually removed by treatment. A very similar condition is occasionally met with in persons beyond the middle period of life who have suffered from gout or rheumatic gout.

Gonorrhœa also forms a complication of subacute synovitis, and though only one joint is generally affected, Mr. Adams has seen both knee-joints affected, and iritis, resembling the ordinary rheumatic form of this affection, occurring at the same time.

The diagnosis from strumous and syphilitic synovitis was then given, the latter affection being associated with periosteal inflammation of the articular extremities of the bone.

In the treatment of subacute and chronic rheumatic synovitis, Mr. Adams preferred a large blister dressed with strong mercurial ointment, together with iodide of potassium and bicarbonate of potash internally. The stiffness remaining in the joints may be removed by the use of the local steam bath, shampooing, and passive motion.

The next affection described was *chronic rheumatic inflammation of the joints, not commencing in synovitis, chronic articular rheumatism.* In this affection the ligaments of the joints are primarily and essentially affected; and it has a marked tendency to terminate in true bony anchylosis. In this respect

it differs from chronic rheumatic arthritis, which Mr. Adams believes never terminates in true bony anchylosis, and also in the absence of any enlargement of the articular extremities of the bones by osteophites, or nodulated growths of bone developed in the articular cartilage.

The clinical history of this form of chronic rheumatic inflammation has not been well described, but a few well-marked cases had fallen under Mr. Adams' observation in patients becoming gradually anchylosed in many articulations, and reduced to a most hopeless condition, without presenting any of the ordinary symptoms of what is called rheumatic gout, or chronic rheumatic arthritis. The articulations of the vertebral column are not unfrequently affected.

In the treatment of this affection, Mr. Adams chiefly relies upon a combination of bicarbonate of potash with ammonia, and when the urine is clear commences the exhibition of sulphur externally and internally, a sulphur vapor bath being taken every day, or every other day. He has also found great advantage from the use of dilute phosphoric acid, in doses of twenty or thirty drops, three times a day. Locally, the use of turpentine liniment and flannel bandages was insisted upon.

The next affection described was *Chronic Rheumatic Arthritis; Rheumatoid Arthritis, or Rheumatic Gout.* For our present knowledge of the pathology and clinical history of this affection, we are chiefly indebted to the labors of Dr. R. Adams, of Dublin, Dr. R. W. Smith and Mr. Colles, of Dublin, and of Mr. E. Canton, of London. The importance of this disease is increased by the fact that its effects have frequently been mistaken for the results of accident, supposed to have been overlooked by the surgeon, such as fracture of the neck of the thigh-bone; shortening of the leg from bruise of the hip; and some cases of dislocation, and other obscure forms of injury. When fully developed, all the structures of the joint are involved, but the most important and characteristic structural changes occur in the articular cartilages and the bones.

In the articular cartilages two processes proceed simultaneously from the commencement of the disease—namely, one of fibrous degeneration, occurring in their central portions, and leading to their complete removal, and the other a process of hypertrophy and ossification, proceeding at the margins, and towards the circumference of the articular cartilages, leading to the enlargement and alteration in form of the bones by the development of nodulated growths, and ring-like layers of new bone at the margins of the articular surfaces. These changes had been first described by Mr. Adams in the third volume of the Pathological Society's *Transactions*, and were opposed to the views entertained by Rokitansky and other observers, who believed the enlargement of the bones to depend upon a process of inflammatory expansion described as osteoporosis, followed by induration. Eburnation of the bone takes place where the cartilage is removed, and the surfaces are exposed to friction.

These changes were described in detail as affecting the ball and socket, and the ginglymoid articulations. The fibrous structures, including the periosteum, capsular ligaments, intra-articular ligaments of the hip and knee, fibro-cartilages, capsular and intra-articular tendons, undergo various changes, some structures being destroyed by atrophy and fibrous degeneration, whilst ossification is proceeding in others.

In tracing the clinical history of this affection, Dr. Adams, of Dublin, believes it commences in chronic synovitis, but Mr. Adams considers this requires further confirmation; at least, cases have fallen under his observation showing that such is not invariably the case. This disease appears to be of more frequent occurrence in Ireland than in England, and still more frequently met with in Holland, so that exposure to cold and moisture, together with debility and other depressing influences, appear to act as exciting causes of this disease.

With regard to its termination, two pathological peculiarities are observed, one, a remarkable indisposition to terminate in suppuration, and the other that it has no disposition to terminate in true bony anchylosis, motion being preserved by eburnation, but limited in severe cases by osseous growth from the margins of the articular cartilages, and from the surrounding fibrous structures.

The treatment of this affection was considered to be very unsatisfactory, but Mr. Adams believes the evidence of the inflammatory nature of the affection at its commencement not sufficient to call for antiphlogistic treatment; but when synovitis exists, either at the beginning or at a later stage, blisters may be serviceable, but he prefers the perpetual application of warmth and moisture, and when applicable, the use of the local vapor bath. In the latter stages no local treatment is of use except warmth by flannel bandages.

Internally, Mr. Adams recommends the use of bicarbonate of potash and ammonia, and sometimes blue pill and colchicum, when red sediment is deposited from the urine, or when the latter is turbid, but without phosphatic deposits. When the urine is clear, he advises the use of sulphur externally and internally, and also the free use of dilute phosphoric acid. Several patients under his care had benefited by resorting to the hot sulphur baths of Luchon, in the Pyrenees, where they pay great attention to shampooing and passive movements of the joints. The joints should be kept at rest only in the early stage, but when the articular cartilages are destroyed free motion must be encouraged as promoting the process of eburnation, and preserving useful motion in the joints.

Residence in a warmer climate during the winter months was also recommended where practicable.

Strumous Diseases of the Joints; their Pathology and Treatment. Also the Treatment for the Restoration of Motion in cases of Stiff Joint, or Partial Anchylosis.

Strumous diseases of the joints were first considered in reference to their general pathological characters, which Mr. Adams described as—1. The essentially chronic character of the inflammation—chronic, or, at most, subacute from the beginning, and maintaining this character through the whole duration of the disease, generally extending over several years; and 2. The tendency of the inflammation towards the destructive processes of suppuration and ulceration in the soft tissues, and to caries and necrosis in the bones, thus invading all the structures of the joints.

In this class of joint-diseases, we see inflammation occurring essentially as a destructive process, leading to the complete destruction of the joints; and unless arrested in its early stage by judicious treatment, terminating in loss of all the functions of the joint, and anchylosis as its most favorable result, and in a large proportion of cases leading either to amputation of the limb, or the more modern operation of excision of the joint, as the only chance of saving the limb or life of the patient. As to the order in which the several structures are invaded, and the liability to primary inflammation, the general tendency of surgical opinion is to the belief that strumous disease of the joints most frequently commences in the cancellous structure of the articular extremities of the bones, and this is probably due to the teaching of Sir B. Brodie, who laid much stress upon this form of disease. Mr. Adams's observation, however, has led him to the opinion that strumous disease of the joints commences most frequently in some of the ligaments of the joints, as the result of an injury, and that from these structures it extends to the synovial membrane. Next to the ligaments, he believes that strumous disease most frequently commences in the synovial membrane, as the result of exposure to cold and damp; and thirdly in order of frequency, that strumous disease commences in the cancellous structure of the articular extremities of the bones, as the result of exposure to cold and damp, and that the disease then generally takes the form of necrosis.

Dissections of hip-joint disease in the first stage, recorded by Mr. Aston Key, Mr. Coulson, and Mr. Adams, were adduced as examples of disease limited to the round ligament and adjacent synovial membrane, without general synovitis, ulceration of cartilage, or disease of the bones; and Mr. Adams observed that, in a large number of such cases, a reliable history of some accident is given, as preceding the joint affection, and in all probability laying the foundation of the disease. With regard to the curability of strumous disease of the joints, there can be no doubt that, so long as the affection is limited to the synovial mem-

brane, in the ordinary form of chronic inflammation, and the ligaments have not been destroyed, it admits of being cured, with restoration of motion to the joint; although the treatment may be very tedious, extending from a few months to perhaps two or three years. When the articular cartilages are to any considerable extent destroyed, it is no longer possible to restore motion, and the best result obtainable is fibrous anchylosis, leading ultimately to bony anchylosis.

From the disposition of the bone-disease to advance when this texture is much implicated, the prospects of anchylosis are remote and uncertain. Under favorable circumstances it may sometimes be obtained, but frequently fails, and amputation or excision must be resorted to. Amongst the poor, operative means may be adopted at an earlier period than in the wealthy class, time being a more important object; and Mr. Adams preferred excision at a comparatively early period, and before the local disease had exhausted the powers of the patient.

The treatment of strumous disease of the joint in the early stage, during which it is alone possible to obtain complete restoration of the joint, must be both constitutional and local. All active local treatment is at once negatived when the strumous constitutional condition of the patient is recognized; and these cases, Mr. Adams considered, were no longer to be treated by leeches, blisters, issues, moxas, the actual cautery, &c.; but all these methods of depletion and counter-irritation, still adopted by some surgeons in England, and more frequently by our continental neighbors, should be laid aside, and the object of treatment limited to securing rest to the joint by means of gutta-percha splints, &c., together with the application of perpetual warmth and moisture, by wet lint covered with oiled silk, aided by the use of the local vapor bath for a quarter of an hour three times a day. In this way local rest or rest to the joint affected is always secured, whilst general exercise is at the same time permitted. In disease of the ankle-joint, or its neighborhood, the use of a wooden leg contributes best to this result; and in disease of the knee or hip-joint, the use of crutches should be insisted upon as early as possible.

It is only in the later stage, when there is no decided increase of heat in the inflamed joint, that Mr. Adams resorts to the application of blisters, tincture of iodine, Scott's ointment, &c.

The constitutional treatment consists in the administration of cod-liver oil, iron, quinine, and strychnine. Mr. Adams entertains a high opinion of the usefulness of the hypophosphite of lime, in doses of from five to ten grains, with ten or twenty drops of the tinctura ferri, in water, three times a day, directly after meals. He also advises residence at the sea-side, on chalk hills, or in mountain air. With these hygienic advantages, and mild local treatment, the disease may be arrested in a large number of cases.

The next subject discussed was the *Treatment for the restoration of motion of a stiff joint, or partial anchylosis, by forcible flexion and extension under chloroform.* After alluding to the history of this operation, Mr. Adams stated that when appropriate cases are selected, having reference especially to the constitutional condition of the patient, and the cause of the anchylosis; and when the operation is done with proper precautions, and with less violence than is sometimes used, there appears to be no risk whatever of inflammatory mischief following the operation. The absence of inflammation, and especially of suppurative inflammation, as a result of the operation, is, in a great measure, to be explained by the subcutaneous nature of the injury inflicted; and in this respect it may be classed in the same category with dislocations and simple fractures, which are seldom, if ever, followed by suppurative inflammation.

One of the principal points which had engaged Mr. Adams's attention had been to determine the particular class of cases to which this treatment is applicable, and those in which it is either attended with danger, or in which it would probably fail in its object of restoring motion; and with this view he arranged all cases of partial anchylosis, or stiff joint, in three classes, viz., 1st, strumous; 2d, rheumatic; and 3d, traumatic.

With regard to the *first class*, the strumous, the result of Mr. Adams's experience has been to prove that they are the most unfavorable for treatment by

forcible extension. In any scrofulous disease of a joint, where there is reason to believe that the articular cartilages, and other structures of the joint, have been much damaged—and in scrofulous diseases the articular cartilages are, as a general rule, destroyed to a greater or less extent—a stiff joint is certainly the best possible result for the patient; and to obtain this should be the object of the surgeon, every care being taken to secure anchylosis, with the limb in the most useful position. Any attempt to cover the lost mobility can only be made at the risk of producing serious inflammation; and if free motion should be obtained under chloroform, and no serious inflammation follow the procedure, the motion will not be permanently retained, owing to the damaged condition of the joint. Stiffening will gradually return, and the case must be considered a failure.

With respect to the *second class of cases*—the rheumatic—the result of Mr. Adams's experience has been as favorable as it has been unfavorable in the strumous class. In a large proportion of cases of stiff joint, or anchylosis, occurring in young adults after rheumatic fever, or as the result of that severe form which occurs during the progress of gonorrhœa, free and useful motion may be restored by forcible rupture of the adhesions and thickened ligamentous tissues.

There is one great peculiarity in the rheumatic form of inflammation, in whatever organ or structure it may occur—viz., a remarkable indisposition to suppuration; and this is, in the highest degree, favorable to the operation of forcible extension of joints, the tendency of rheumatic inflammation being to the adhesive form.

In the *third class of cases*, viz., the traumatic, the results of forcible extension are also generally favorable, though more uncertain, and on the whole not equal to the results obtained in the rheumatic class.

The conclusions arrived at by Mr. Adams are as follows: 1. Forcible flexion and extension, under chloroform, of a stiff or partially anchylosed joint—false or fibrous anchylosis—is a procedure attended with very little risk, in properly selected cases, and when the force employed by the surgeon, and the subsequent movements, are not excessive, more especially at the first operation. 2. The cases should be selected with reference more especially to the constitutional condition of the patient, and the integrity of the articular cartilages. 3. Cases of partial anchylosis resulting from scrofulous diseases of the articulation, and those preceded by suppurative inflammation within the joint, whether occasioned by phlebitis, febrile affections, or external injury, are the least favorable for treatment. 4. The cases of partial anchylosis produced by acute rheumatic inflammation, especially when occurring in the adult, and those resulting from gonorrhœal or genital rheumatism, are the most favorable for treatment. 5. Traumatic cases, or those resulting from external injury, when occurring in the adult, and unaccompanied by suppurative inflammation, are also favorable for treatment in a large number of instances.

ART. 146.—*On the so-called Subcutaneous Condyloma.*

By Prof. H. ZEISSL.

(*Archiv f. Dermatologie u. Syphilis*, 1, 1869; *Schmidt's Jahrbücher*, 1, 1869.)

The name of subcutaneous condylomata has been given to growths from the integument, varying from the size of a mustard seed to that of a pea, with surfaces generally flattened, but in some few instances rounded. In the latter form there is often found, as in variola, a central depression. In this depression may be observed with the naked eye the orifice of a follicle, which is either opened or closed by a comedo. The integument over these growths, which in exceptional cases attain the size of a sugar comfit, is slightly shining, and of a rosy red color. The color, however, undergoes several changes with age and at the commencement of the terminal metamorphoses. The larger growths are circumscribed at their bases, though never pedunculated, and have about the consistency of molluscum contagiosum. As a rule, sensation is not

impaired and pain does not occur, except in cases of inflammation. By pressing with the thumb nail upon the sides of one of these growths a stearine-like plug of sebaceous matter exudes from the follicular opening. After an increase of this lateral compression there follows a roundish formation, which under a low power presents a glandular and cluster-like appearance. This formation has up to the present time been erroneously stated to be an acuminated condyloma which had taken its origin from the walls of the follicular cavity. Zeissl, in accordance with this view, had previously proposed to apply to the subcutaneous condyloma the name of endofollicular condyloma. But since observers have found the acuminated condyloma to be an hypertrophy of a pre-existing papilla with simultaneous overgrowth of its epidermic covering, this name is no longer tenable. The removed cluster-like formation is not, according to Zeissl, a new connective-tissue growth arising in the cavity of a follicle, but is as may be observed with a low power, a morbidly enlarged sebaceous gland, the duct of which before the application of pressure contained a mass of inspissated sebaceous material. The so-called subcutaneous condyloma therefore presents a retention cyst. The retention of inspissated serum is not, however, an essential point; this, according to Zeissl, *consists rather in the monstrous hypertrophy of the glandular portions of the follicle itself.*

After the degenerated follicle has been squeezed out there is a proportional loss of substance in the tissue of the cutis, two or three drops of blood are discharged, and the small wound heals in two or three days with a slight scar. The larger growths are best removed with curved scissors, the wound being afterwards cauterized. A relapse is not to be feared—a point of distinction between these growths and the acuminated condyloma. The larger growths may in consequence of irritation become inflamed or gangrenous; the smaller ones, on the other hand, when they are not compressed, generally shrivel. These shrivelled follicular tumors afterwards form the so so-called comedones. The growths just described differ from the acuminated condylomata in their pathogenesis, as well as in their minute structure. The development of an acuminated condyloma on syphilitic and non-syphilitic soil always depends upon irritation of the affected parts by a physiological or a pathological secretion—sebaceous matter, sweat, mucous or muco-purulent secretion. The condylomata, as is well known, form on those parts of the genitals and surrounding regions over which there has been a long-continued flow of seborrhagic or gonorrhœal secretion. The follicular affection described above affects those parts of the body which are never bathed in secretions of a similar kind. The independence of irritation on the part of cyst formation and hypertrophy may be recognized in the fact that the affection occurs without gonorrhœa, and in regions where no gonorrhœal secretion can reach, as the arms, back, &c.

Zeissl believes that excessive and long-continued perspiration is one of the chief causes of the follicular affection here described.

Art. 147.—*On Pyæmia or Suppurative Fever; being the Astley Cooper Prize Essay for* 1868.

By Peter Murray Braidwood, M.D., L.R.C.S. Edinburgh; late President of the Royal Medical Society of Edinburgh.

"Pyæmia," Dr. Braidwood writes, "may be defined to be a fever which, attacking persons of all ages, is generally sequent on wounds, acute inflammation of bone, the puerperal state, surgical operations or other sources of purulent formation, and septic infection. It appears sometimes to prevail in an epidemic form. No one cause has as yet been found to produce this disease. The presence of pus is not necessary for its occurrence.

"The injection of putrid fluids, as also of chyme and other healthy fluids, induces in animals symptoms like those of suppurative fever, and pathological appearances in the viscera similar to those met with in the early stages of this disease. The symptoms most pathognomonic of suppurative fever, are a more or less sudden invasion on the fourth or fifth day after an operation, marked

generally by rigors or by depression of spirits and great anxiety, followed by profuse perspirations; the pulse is generally rapid: the tongue is furred, then loaded, and by-and-by, brown and dry; the skin assumes a dusky, sallow, and then a somewhat icteric tinge; there is very great prostration and emaciation, one or more of the joints swell, become red and painful, and may even suppurate; the breath has a heavy, sweetish, or purulent odor; and there is labored respiration, delirium, or other symptoms indicative of other organs being chiefly involved. This fever has no fixed duration, but it exhibits certain stages, and generally abates or becomes intensified on the 7th, 8th, 15th, 21st, 22d, or 28th days, dating from the first rigor or other initiatory symptom.

"It is characterized by the formation of secondary abscesses in the internal organs (most frequently in the lungs, liver, kidneys, spleen, and brain), and also in the joints and cellular tissue.

"I have designated pyæmia a fever, because it seems to me that, regarding its origin, symptoms, progress, and pathology, this disease is more nearly allied to the class of febrile affections than to any other group of diseases with which we are acquainted. This view is further confirmed by the only treatment which has as yet been followed by success. A liberally and properly regulated use of stimulants, and of nourishing diet, has alone been found efficacious in averting that serious issue which has hitherto compelled surgeons to view a rigor after operation as a death signal."

ART. 148.—*On the Causes of the Danger of Congestion Abscesses, and on their Treatment.*

By A. H. SCHOEMAKER.

(*Ned. Tijdsch.*, 1, Afd. p. 417; and *Schmidt's Jahrbücher*, No. 10, 1868.)

It is well known that the cause of the danger of congestion abscesses has often been sought for in the circumstance that the pus in these affections forms cavities, deviating passages, and long tracks. After the abscess has been opened, the greater part of the pus flows away, but a portion always remains behind in these passages; this comes into contact with the air passing from without, and putrefaction and putrid infection are consequently set up. For this reason attempts have been made to prevent the dangerous penetration of air and putrefaction, by applying plaster and thick bandages, by opening the abscess subcutaneously and under water, and to remove the pus by the employment of compression bandages, by making large openings, and by the introduction of drainage tubes. But it has already been learnt from experience that no foul suppuration occurs when wounds are kept uncovered and are freely open to the access of air. Roser's treatment of pyothorax proves in a striking manner that putrid infection is not always set up when atmospheric air stands in contact with stagnating pus in a warm place. After the pus has passed outward from the pleural cavity, not only is there a free access of air to the fluid left behind, but Roser blows air into the chest by force, and thus forces out still more of the purulent fluid. A quantity of pus then naturally remains within the chest in contact with air, and yet in Roser's cases no putrid infection followed, but in several instances rapid cure. On the other hand, cases have been observed in which after spontaneous or artificial opening of congestion abscesses when the pus had flowed away freely and directly, and when no air had penetrated into the cavity, disturbances in the constitution followed similar to those presented in cases of congestion abscesses where the pus had stagnated and where there had been a free access of air.

This constitutional disturbance is explained by Schoemaker in the following manner: As soon as pus has formed and an abscess has commenced, the adjacent tissues are pressed together. All that is sufficiently elastic and extensible to yield on compression, becomes stretched; that which is not sufficiently possessed of these characters or wants them altogether, is destroyed by compression, converted into pus, and furnishes its contribution of the contents of the purulent cavity. A kind of membranous covering, the membrana pyogenica of old

writers, is gradually formed around the pus. This consists partly of compressed tissues which had previously existed as connective tissue, muscles, vessels, fasciæ, &c.; and partly of newly-formed connective tissue and vessels. Whilst fresh pus is being constantly secreted, the inclosing membrane is stretched, and the limiting tissue and vessels become extended and flattened. The blood in these vessels meets with considerable resistance, and the changes of nutritive material consequently take place very slowly. Conditions are altered after the opening of the abscesses, whether this be spontaneous or artificial. After the discharge of pus, the stretching of the walls of the abscess is diminished, and the extension and flattening of the vessels cease. The resistance experienced by the blood before the opening of the abscess and before the discharge of its contents is now removed; there is a free circulation, and the nutritive changes at once become more active. This clearly explains the fact that in the past few days after the abscess has been opened much more pus is discharged than the cavity could have held; in this short time more pus is secreted than was formed during the whole time before the opening was made, more than was required during weeks, months, and years to bring about the abscess. That in connection with this wonderfully increased secretion from the blood a proportionally increased loss of nutritive material takes place, is a fact that can admit of no doubt.

For the explanation of the constitutional disturbance which often occurs rapidly after opening congestion abscesses, refuge has not generally been taken in the hypothesis that putrid infection can originate in consequence of the introduction of air. Certainly it is probable that through the prolonged changes in the nutritive material abnormal substances may have been taken up into the blood, and consequently such persons become affected, still, it is as yet unknown what chemical changes occur in the blood and cause disease. With the abnormally increased loss of nutritive material, the introduction of air may indeed act so far unfavorably, as is conceived, that it may accelerate it; but the introduction of air certainly is not the only cause of the serious symptoms. In the treatment of congestion abscesses, the consideration of the original lesion is a matter of the greatest importance. When this is unknown, or, when known, cannot be reached or removed, the opening of the abscess must be prevented as long as possible, and endeavors made to forbid all hurtful influences, such as tight and heavy articles of clothing. According to Schoemaker, art can do little more than this. The local application of iodine, quicksilver, &c. to congestion abscesses is considered as useless, and therefore to be avoided; also the employment of plasters, which have but little influence upon the progress of the primary lesion, and promote the opening of the abscess. Schoemaker holds that a subcutaneous opening is not indicated when the congestion abscess is at the point of being discharged, as the pus flows away more slowly from a spontaneous opening than from one made artificially. The introduction of drainage tubes, enlargement of the opening, &c., are to be avoided after the abscess has broken. A congestion abscess ought to be considered as a *noli me tangere*, and a small counter-opening is only to be made when there is reason to fear a lower collection of pus. Should the pus become ichorous, irrigation with warm water, chlorine water, or with hyperoxide of manganese is indicated.

In conclusion, Shoemaker alludes to the necessity of supporting the strength of the patient by the usual hygienic measures and remedial agents.

ART. 149.—*On a New Method of Evacuating Fluid Collections.*[1]

By M. VERNEUIL.

(*L'Union Médicale*, No. 3, 1869.)

M. Verneuil has made known the following new method for the evacuation of certain fluid collections; empyema, abscess of the liver, retention of the menses through imperforate condition of hymen, &c. This consists in a com-

---

[1] Read before the Société Impériale de Chirurgie, December 30, 1868.

bination of various proceedings previously known and employed for the same purpose.

The instrumental apparatus consists essentially in—1. An ordinary trocar for puncturing the collection of fluid. 2. A caoutchouc sound, similar to a drainage tube, and furnished with a central support; this tube is introduced through the canula of the trocar into the opened cavity; the support and afterwards the canula are withdrawn, and the tube allowed to remain; the fluid continues to flow by drops. 3. At the extremity of this tube is fitted a valve of goldbeater's skin, which serves to prevent the entrance of air before the discharge of fluid has ceased. This membranous valve is removed when one wishes to inject the cavity; it is afterwards reapplied. This apparatus is left in its position so long as may be deemed necessary for the modification of the walls of the normal cavity or the obliteration of the adventitious cavity.

M. Verneuil has employed this combination of means with success in a series of cases. Firstly, in a case of empyema, with perfect cure; secondly, in a case of retention of the menses in consequence of an imperforate hymen; thirdly, in a young girl affected with chronic abscess, resulting from Pott's disease; fourthly, in a patient suffering from an enormous abscess of the liver. In all these cases modifying injections containing chlorine or iodine were practised once or twice in the day, and had a fair share in the definite result, which was constantly favorable. In every instance the entrance of air, to which M. Verneuil, with so many other surgeons, attributes dangerous consequences, was successfully prevented.

Art. 150.—*On Tumors.*

By Dr. C. Heitzmann.

(*Wiener Medicinische Wochenschrift*, 87—89, 1868; *Schmidt's Jahrbücher*, No. 2, 1869.)

The primary development of a tumor may be favored by *irritation*, *disposition*, and *infection*. The irritation may be continuous, or frequently recurrent, mechanical or chemical. A single severe and traumatic irritation also has ere this given rise to the formation of a tumor. That on local irritation from without a tumor growth follows with certain individuals in certain tissues only, is explained by the supposition of a local specific irritation through material produced in the body itself—*disposition*. The disposition may be local as well as general; in many instances it is hereditary, and increases with advancing age. With regard to infection, that of one individual through another is to be distinguished from individual self-infection. Whether a true pseudoplasm may generate a transferable contagium is still questionable. Certain tumors, however, cause local infection in surrounding parts, since numerous secondary deposits often arise in the neighborhood of the parent growth, which may become fused into a common tumor, as in chondroma, sarcoma, carcinoma. Either the nearest lymphatic glands are affected with the same disease through displacement of infectious tissue elements, or similar tumor growths are formed in more remote organs, whither particles of the tumor taken up into the circulation were floated—embolic metastases. The latter complication occurs especially with carcinoma, less frequently with chondroma and sarcoma. Those organs which have a great tendency for the production of primary tumors are not the seats of metastatic growths; the outer integument, mucous membranes, the eyes, the nose, and the several glands. The lungs, liver, kidneys, and serous membranes, which very frequently present metastatic growths, are very rarely affected with primary formations. The lymphatic glands, the brain, and the muscles and bones, present both primary and secondary eruptions. Tumors (pseudoplasms) consist of elements and tissues which are identical with, or at least similar to, those of the normal body. They may be divided histologically as follows (Virchow):—

1. Simple *histoid tumors*, consisting of simple tissues, and corresponding in their construction to some known tissue of the body.

2. *Organoid tumors:* made up of several tissues, often with a determinate typical arrangement of the parts, resembling a certain organ of the body.

3. *Teratoid tumors:* combinations of several organs, which correspond to an imperfect reproduction of one complete system of the body.

4. *Combination tumors:* several forms of tumor associated together.

Tumors may be thus divided, according to Billroth, with regard to their localization.

1. *Solitary tumors.*

2. *Multiple tumors:* a series of similarly organized growths in one fixed tissue system only.

3. *Infectious tumors:* those which affect the nearest lymphatic glands and more remote organs.

Every tumor may be solitary and multiple; the infectious tumors are generally solitary at first.

Clinically, tumors may be distinguished as *benign* and *malignant.* The *benign growths* are composed of uniform tissues, commence either as solitary or multiple formations, and are not infectious, that is to say, they are purely local diseases. They act injuriously by causing compression and destruction of the surrounding tissues, and impairing their function. *Malignant tumors* are either the expression of some general dyscrasia or soon result in such; they are also infectious.

The peculiarities by which benign can generally be distinguished from malignant tumors are not well marked. One may, however, decide the degree of malignity.

Benign tumors are quite free from pain or never continuously painful, except when they exert pressure or traction, or are themselves subjected to hurtful influences. Neuroma is to be excepted. *Malignant tumors* in general are, or become painful, on account of the tension of surrounding tissue.

The *benign tumors* are in most instances sharply defined; the *malignant* frequently in the form of infiltration, and without strict limits; a malignant new formation, however, may be circumscribed along most of its extent. *Malignant growths* generally increase rapidly in size; some forms of cancer, however, grow slowly for years, and a relatively benign form of cystosarcoma will grow in a few years to the size of a child's head.

The general covering of the body remains movable over *benign* formations, except when pressure causes inflammation and subsequent adhesion of the skin. *Malignant tumors* involve the skin early, except where they are separated from this structure by aponeurosis or serous membranes.

Simultaneous secondary deposition at several places, or in different systems of the organism, does not prove *malignity. Benign formations*, as warts, nævi, chondromata, and lipomatous and fibromatous tumors, come on most frequently as multiple deposits in a certain tissue. Voluminous cancers, and also flat epithelial cancer, almost always remain solitary.

The neighboring lymphatic glands swell with *malignant* new formations. Here the concomitant enlargement of inflammation and suppuration which occurs with *benign* growths has to be distinguished from infiltration. With concomitant swelling the hardness is never considerable, and the sensibility not increased, except through inflammation; the enlargement is reduced by antiphlogistic treatment, and disappears when the inflammation or the original tumor is removed. With infiltration there is considerable induration and tenderness, and but slight mobility. The occurrence of glandular swelling depends principally upon the earlier or later softening of the original tumor. The richer a sarcoma or cancerous tumor in cellular elements or bloodvessels, and the more infiltrated the neighborhood of the growth, so much the more readily will the lymphatic glands become infected, and more speedily will metastases occur.

Malignant formations soon commence to soften at several places simultaneously, according to the nature of their seat; this takes place always in soft glandular growths and in cancer of the mamma; in the liver it does not occur until a late period. Epithelial cancer breaks up most frequently and rapidly.

Benign pseudoplasms may be affected with superficial inflammation, suppura-

tion, and ulceration, in consequence of pressure, the weight of the tumor, friction of the clothes, &c.

Though irritation from remedial agents and injury from probing, or from exploratory oncotomy, even after the breaking up of a *malignant* tumor, the process of fungation becomes more active, and ulceration extends along the superficial surface. After softening of relatively *benign* tumors, the growth becomes more active, particularly with cystosarcoma, and generally when warmth and friction have been applied.

Benign tumors do not return after complete removal; *malignant* tumors, on the other hand, return very readily. Sarcoma shows a great tendency to local relapse.

Malignant infectious tumors generate dyscrasia; they may also multiply in the form of circumscribed metastases by means of embolic detachment of tissue particles.

Heitzmann distinguishes tumors in the following manner:—

1. Tumors which make their appearance both as solitary and multiple growths, which grow very slowly, which do not become infectious even after a life-long existence, and which do not return on extirpation. These are the proper *benign* growths, such as fibroma, lipoma, chondroma, osteoma, angioma, neuroma, and epidermal tumors.

2. Tumors which increase rapidly at one time, slowly at another, which often commence as multiple growths, which often relapse locally after extirpation, and which do not infect the lymphatic glands, but destroy the organism through their rapid extension and through their multiplication, resulting from embolic metastasis. These are the so-called suspected tumors, such as sarcoma, adenoma, soft fungating chondroma, and lymphoma.

3. Tumors which grow rapidly, which infect the lymphatic glands and the organism, and which readily return after extirpation; the malignant growths, as the different forms of cancer.

Art. 151.—*Is Cancer a Blood-disease?*

(*British Medical Journal*, April 10.)

The question raised by Mr. De Morgan at the last meeting of the Pathological Society, as to the constitutional nature of cancer, is one of the highest importance. The almost universal opinion that cancer is what is called a blood-disease, is founded partly on the very frequent recurrence of the disease after operation; partly on its wide distribution when once formed; and partly on the evidence, so frequently afforded, of hereditary tendency.

A protest against this opinion was raised by Mr. Moore: and Mr. De Morgan has taken the same view. It was argued at the Society that a great, if not equal tendency to recurrence is found in the case of tumors which are not cancerous, as in the specimen of cystic sarcoma exhibited at the meeting; that diseases not cancerous are distributed when once formed; and that hereditary tendency is as strongly marked in the simplest tumors as in cancer—as, for example, in a case of hereditary fatty tumor mentioned by Mr. De Morgan. It is indeed familiar to all that peculiarities of nutrition in the parent, of whatever kind, are constantly transmitted to the offspring.

The argument advanced by those who deny the constitutional nature, in the ordinary acceptation of the term, of primary cancer, is that prior to, and for a long time after the appearance of a cancerous tumor, the constitution is distinguished, in most cases, by its healthy characters, and by the absence of any appearances which would indicate disease.

Mr. T. Smith asked, if the evidence of constitutional taint was absent in cancer, where could it be found? What was a blood-disease, if cancer were not? Mr. De Morgan referred to the constitutional characters seen in struma before any deposit of strumous matter took place; and Mr. Moore alluded to smallpox as an instance of what one would expect if the blood were primarily diseased—viz., the general and simultaneous appearance of the disease over the body—whereas, in fact, smallpox was generated in blood from a matter

first introduced into it, which interjected or inhaled substance was equivalent to the primary tumor out of which general cancer spread.

Then, again, they argue that, if in these non-cancerous tumors we get recurrence and distribution, as in the case presented, it affords a strong ground for belief that the same cause is in operation in both cases; and that the *onus probandi* of the contrary rests with those who maintain that the recurrence and distribution in cancer are evidences of previous general tendency to disease. Mr. De Morgan and Mr. Moore look on this recurrence in both cases as an evidence that some of the elements of the original disease are carried in the liquids of the body, in bloodvessels, or lymphatics, or spaces in the connective tissue, to a greater or less distance; the extent to which this tendency exists being a question of more or less: that as we find some forms of cancer far more disposed to distribution than others, so cancerous tumors generally may be more disposed to it than other tumors.

The great question which is thus raised is as to the propriety of early operation. If in the first place, the disease is purely local, but with a structure which allows of the free dissemination of its elements, it is obvious that the earlier and more completely it is removed, the greater the prospect of future immunity. Mr. T. Smith's observation, that it ought to be shown that early and thorough operations do preserve the patient from recurrence, is important; but it is obvious that no logical proof can be given, since surgeons rarely or never see the disease in its early stages.

Art. 152.—*On a New and Successful Method of Treating certain forms of Cancer.*

By Alexander Marsden, M.D., F.R.C.S. Edin., Surgeon to the Cancer Hospital.

The plan of treatment recommended by Dr. Marsden is not intended, the author states, to supersede the use of the knife, but to be used for those cases in which that instrument would be useless, or in which a good caustic can do the work better; as such he offers it to the profession at large.

The treatment is by arsenical mucilage, which, it appears, is applicable to all forms of cancer except the cystic or colloid, provided they have not exceeded certain limits—viz., four square inches, and then not more than a fourth must be attacked at once. When a cancer has exceeded this limit, Dr. Marsden knows of no means that ought to be used to extirpate it but the knife. The paste may be applied to cancers situated on any part of the body, except inside the mouth or nose—parts, in fact, where the use of the curative agent would be dangerous. Dr. Marsden does not recommend its use when the disease is deeply seated, but for many cancers on or near the surface. This mucilage, he adds, is the least painful and most certain remedy he knows. The paste is made according to the following formula:—

Arsenious acid, ʒij.
Mucilage of gum acacia, ʒj.
To be well mixed together, and made into a thick paste.

The patient's health having been attended to, the whole of the cancerous surface is to be spread over with this paste, provided it is not more than a square inch, and it must be sufficiently thick not to run; a piece of dry lint is then pressed on to it, overlapping the paste half an inch all round; this must be left for a short period, say ten minutes, by which time any superabundant paste will have been taken up by the extra lint, which is then to be carefully cut away with a sharp pair of scissors; in an hour, or at most two, the lint covering the paste will have become dry and hard, and it will adhere closely and firmly to the cancer. In the course of twenty-four hours the surrounding parts will commence to swell, become red, and to a certain extent inflamed, and the patient will experience a drawing pain. In general this is by no means severe, and does not last more than one or two days. At the expiration of

from forty-eight hours to three days, according to circumstances, bread and water poultices are to be constantly applied and changed every two or three hours; the pain, redness, and swelling will by this time have subsided, and a distinct line of demarcation be seen extending entirely around the cancerous mass; the skin ulcerates, and a fissure is formed, separating the slough from the healthy tissues; the fissure continues to deepen until the entire cancer comes away, leaving a healthy cup-like depression, varying in size and depth according to the mass removed. Healthy granulation will now commence, and it will be well to continue the poultices for some time; indeed, it often happens that no other application need be used. In some instances, the author writes, only one application will be necessary, but it will in general be found advisable to apply it every second or third morning till the desired effect is produced. When it is intended to re-apply the paste the former piece of lint must be carefully soaked for some time with warm (not hot) water, and after it has come away, the mucilage be used as before, recollecting that until the last application that is intended has been made, poultices as a *rule* are not to be used, unless under special circumstances, and that after a decided line of demarcation has been formed no more paste is to be applied.

Some weakly patients, Dr. Marsden writes, will be benefited by a tonic both before and during the application. The following is what he frequently gives:—

Hydrochloric acid, ʒj.
Mixture of opium, ʒj.
Compound tincture of bark, ʒiv. Mix.

A teaspoonful to be taken in a wineglass of water twice or thrice a day.

Art. 153—*On Syphilis.*

By E. H. Gregory, M.D, Adjunct Professor of Surgery in the St. Louis Medical College.

(*The St. Louis Medical and Surgical Journal*, November 10, 1868.)

In speaking of the treatment of syphilis Dr. Gregory says that every case may be treated without mercury; many cases do not admit of it at all; but the moderate and judicious use of mercury in many cases removes the existing accident, and renders the patient less liable to relapse.

Diday abandoned a series of cases of syphilis to nature, and proved beyond dispute the fact that the disease is susceptible of spontaneous cure. "Do not forget this fact," Dr. Gregory adds; "ever remember that, however bad your case, there is a natural tendency to recovery. Regulate carefully and strictly the hygiene of your patient; sustain the powers and correct deviations from health upon general principles, always inspiring hope. Never use mercury in the primary sore, if it is disposed to heal during the first week; never when a chancre is inflamed or phagedenic; never at any period of the disease when your patient is feverish. Mercury does not lessen the chance of secondary symptoms; as a general rule, it is well to wait for secondary symptoms before appealing to the mineral, and then antimonials may cure. The most reliable agent, after all, in the earlier stages of syphilis, is mercury, and, as the disease progresses, iodine begins to exercise a therapeutic influence, and in the last stages, a combination of the two becomes most important. At first mercury should be given cautiously, and in small and infrequent doses. Sound the susceptibilities of your patient. Our formulæ are in early periods:—

"℞ Protiodidi hydrarg., ℈j.
Ext. conii, ʒj.
Misce. Fiant pil. No. xxx.
"S.—One pill a day for a time, gradually increasing to three pills daily.

"℞ Hydrarg. cum creta, ℈ij.
Quiniæ sulph., ℈j.
Misce. Fiant pil. No. xx.
"S.—One pill three times daily.

"The bichloride of mercury in doses of one-sixteenth to one-twelfth of a grain, three times daily, answers well in many cases; where there is a tendency to diarrhœa, combine opium with the mercury.

"Donovan's solution is a valuable preparation, given in from five to eight drops three times daily after meals. Mercury may sometimes be beneficially administered by the rectum, consisting of half a drachm of mercurial ointment, made stiff with wax or tallow, and repeated twice a day until the gums are slightly affected. When the system is much dilapidated, mercurialization is best attained by fumigation. All that is necessary is a blanket carefully secured about the neck; the patient, completely nude, is seated in a willow chair, beneath which is placed a shallow pan half filled with water, into which is put a brick heated to redness, and upon which is placed a scruple of calomel. In five or ten minutes profuse perspiration is induced; the calomel is evaporated in fifteen or twenty minutes, after which the patient is enveloped in the blanket and placed in bed. If the patient's strength is fair, every night is not too often for the repetition of the baths, or from one to three times a week may be sufficient. During the time, and at all times, the patient should wear flannel next the skin. The baths may be continued from four to five weeks.

"The topical application of mercury is proper when the disease is of long standing; when the surface is covered with sores; when there is deep involvement of the bones; or when the system is exhausted by suffering or long courses of the mineral by the mouth.

"Mercury may also be given by inunction, from half a drachm to a drachm, rubbed upon the inner sides of the arms and thighs once a day, until the constitutional effects of the medicine become apparent by the state of the gums, breath, and saliva.

"Simple and medicated baths are most useful, particularly beneficial in rupial ulcers, rheumatic pains of bones and joints. A common salt hot bath, or one containing carbonate of soda or potassa, are most excellent detergents in the foul ulcers so common in the advanced stages of syphilis.

"Most of you are familiar with this formula:—

"℞ Potass. iodidi, ʒvij.
Bichloridi hydrarg., gr. iij—v
Ext. conii, ʒj.
Syrup. stillingiæ, ℥ij.
Syrup. sarsap. comp., ℥ij.
Tinct. cinchonæ, ℥iij.
"Misce. S.—Teaspoonful three times daily.

"This combination we use in the latter stages of the disease. It is well to give the dose with a teaspoonful of water, and one or two hours after meals.

"There are certain rules of treatment applicable to all local affections. Thus the surgeon does not hesitate to remove a dead bone, open abcesses, divide fasciæ, trim off ragged, undermined edges of ulcer, placing them in a suitable condition for speedy separation. Cleanliness is important, Fetor is allayed by carbolic acid, or the free use of chlorine preparations. When much inflammation is present, emollients are important. Touching weak sores or phagedenic sores with nitrate of silver or nitric acid at first once a day, and subsequently every third or fourth day, according to the condition and progress of the sore. The potassio-tartrate of iron is not to be forgotten as a local application to ugly ulcers; one drachm to the ounce of water. Dust ulcers with calomel or subnitrate of bismuth.

"For syphilitic affections of the nose we rely mainly on the chloride of zinc, one to three grains to the ounce of water, as a local application. The involved parts should be frequently cleansed. The nasal douche is valuable. Powder used as snuff, as the subnitrate of bismuth and tannic acid, may be used once or twice daily. I have touched with the liquid nitrate of mercury a deep ulcer in the naso-pharyngeal space. After three days, if there is no improvement, it will be proper to reapply the escharotic; meanwhile, we will use the diluted tincture of iodine. A solution of the permanganate of potassa, two to five

grains to the ounce, is a useful remedy for troublesome syphilitic affections of the nasal passages.

"The remedy for syphilitic iritis is mercury. Be most earnest and assiduous, ever mindful of the importance of the organ involved. You have observed the effect of mercury and iodide of potassium in these cases; the turpentine of Carmichael will not do

"For the affections of the bones and periosteum use the iodide of potassium; severe suffering is often relieved as by magic, the iodide of potassium proving a most potent anodyne. Leeches, blisters, and the tincture of iodine are important applications to nodes. Sometimes the pain and tension of a node may be promptly relieved by subcutaneous incision, effected by a delicate bistoury; necrosed bones must be removed, and carious bones scraped and its surface dusted with red precipitate; diffused hypertrophy of bone usually disappears under constitutional treatment. Exostoses, when free from mechanical inconvenience, are not to be interfered with.

"Syphilitic sarcocele is a common disorder, known by its history, by its implicating especially the body of the testicle, and its extreme indolence; it is to be cured by constitutional measures. We are at this time treating a case most satisfactorily with bichloride of mercury and iodide of potassium. The prescription we have already given.

"Condylomatous growths are most constant symptoms. The same general treatment is applicable here as for sarcocele. The chromic acid applied once in a day is the best agent to destroy the tumors; in the interval of the applications the surfaces should be covered with calomel, subnitrate of bismuth, or the carbonate of zinc. The parts should be frequently cleansed with chlorinated soda.

"The treatment of congenital syphilis is like that for the acquired. The most approved hygienic measures, flannel next the skin, high, dry, airy situations, and the best artificial food possible. When there is much emaciation, cod-liver oil is a most valuable adjunct to mercury, which latter displays its effects most advantageously in hereditary syphilis. The bichloride is a valuable mercurial in these cases, in doses varying from the fortieth to the fiftieth of a grain three times a day, dissolved in a few drops of Huxham's tincture of bark. Where there is much gastro-intestinal irritation the mercurial inunction would be best, say a scruple rubbed upon the belly—removing temporarily the flannel bandage—once a day till all evidence of the disease has disappeared."

Art. 154.—*On Inoculation of Syphilis.*

By Dr. Vincenzo Tanturri.

(*Il Morgagni*, ix. 3; *Schmidt's Jahrbücher*, No. 2, 1869.)

This contribution gives the results of numerous pathological experiments with syphilitic inoculation.

Auto-inoculation with matter taken from syphilitic ecthyma pustules.—The number of investigations on this point amounted to several hundred; of these eight are fully reported. The inoculation was performed by making from six to ten lancet punctures, the seat of the inoculation being afterwards covered by a watch-glass. In the course of from twenty-four to forty-eight hours, red spots were observed which varied in shape according to the form of the incisions, and in the midst of these, small vesicles which could be scarcely seen with the naked eye. By the third day the redness had increased, the surrounding tissue was infiltrated, and a crust had formed in the centre over an ulcerous base; about the fourth or fifth day the crust had become thicker and the ulcer deeper; between the tenth and twelfth days there was recovery, resulting in the formation of a level cicatrix with a reddish-brown color. The contents of the pustule could be repeatedly re-inoculated in the same manner. Inoculability was most pronounced shortly after the first appearance of the pustular syphilide; with advanced development or a retrogressive stage of the eruption it succeeded less frequently. Inoculation produced, with repeated generation, positive results

on most regions of the outer integument; when practised extensively on mucous membranes, on the other hand, it always failed. In two individuals matter from an ecthymatous pustule was inoculated into the right thigh, and pus from a soft chancre into the corresponding limb of the left side. After the third day the pustule formed from the ecthymatous secretion closely resembled that formed by the inoculation of pus from the soft sore; the two pustules differed only in the one respect, that matter from the sore on the left side when re-inoculated on mucous membrane gave rise to an ulcer, whilst matter from the ecthymatous sore on the right thigh could not be inoculated with success on the same tissue.

Transfer of the discharge from secondary ulcers of mucous membranes to the skin and mucous membranes of syphilitic subjects.—All attempted inoculations with the discharge from ulcers of the mouth and fauces failed. In two cases the pus from secondary syphilitic ulcers of the vagina was inoculated, with positive results on mucous membrane, and with negative results on the external integument. The secondary ulcers of mucous membranes ought not to be confounded with suppurating gummy growths; numerous inoculations with the contents of these were attended with no results.

Inoculation on syphilitic subjects of matter secreted by broad condylomata.—In thirty-four cases inoculation of the thin serous secretion was performed on the integument without result, and the same thing occurred in three cases in which the secreted fluid from a secondary syphilitic excrescence on the fauces was applied both to skin and mucous membrane. Out of thirty-two auto-inoculations on the skin and mucous membrane with the discharge of ulcerating broad condylomata, five only—and these were on the skin—were attended with success.

Auto-inoculation with the purulent secretion of irritated infecting chancres.—This failed in most instances; in a very few cases only were ulcers formed on the external integument, which could be transplanted through several generations on skin, but not on mucous membrane.

From these results, Tanturri derives the conclusion that whilst the soft chancre can be inoculated both on skin and mucous membrane, the pustular syphilides, the secondary ulcers of mucous membranes, and the broad condylomata can be inoculated only on a similar tissue to that in which they were originally seated. All growths produced by the inoculation of the products of the dyscrasia are therefore to be considered as ulceroids, which are sharply divided from the soft chancre by the fact that their capacity for inoculation is restricted to a tissue similar to that on which they are seated.

ART. 155.—*On the Local Treatment of Syphilis.*

By Prof. SIGMUND.

(*Wiener Med. Presse*, 1867; *Schmidt's Jahrbücher*, No. 11, 1868.)

Since it has been learnt from experience that in the majority of cases eradication of the primary local symptoms of syphilitic disease cannot prevent the general affection, the advantages of a local treatment have been underrated. But the authenticated cases of a successful abortive treatment on the one hand, and the necessity on the other of preventing auto-inoculation, enforce a careful treatment of the local syphilitic symptoms.

The first symptoms of syphilis consist in a papule and an erosion with concomitant infiltration. Cicatrization follows after the application of mild dressings and attention to cleanliness: the lotion being of weak solutions of chlorate of potash, chloride of lime, biborate of soda, or sulphate of zinc. Higher degrees of inflammation necessitate the application of cold to the excoriated spots, and fomentations with sedative agents, among which preparations of lead take the first place (basic acetate of lead, 30 grammes to 180 grammes of water; acetate of lead and sulphate of zinc, 3.75 grammes to 90 grammes of water, containing opium). This agent is especially indicated in cases of painful indurations and papulæ on the prepuce and glans penis, on the scrotum, and on

the labia and the mucous membrane of the vulva of pregnant and lying-in women. With tardy removal of the deceased and healthy secretion, it is necessary in cases of phymosis to perform circumcision, and with much enlargement of the labia majora the removal of these appendages should be undertaken. Ulcers, with pus adhering here and there to the exposed tissues, should be brushed over with caustic agents; sulphate of copper, finely powdered or dissolved in water, 72 centigrammes to 3.75 grammes, is useful, and also a solution of nitrate of silver—1.25 grammes to 3.75 grammes of water. Other efficacious agents, as red precipitate, chloride of zinc, and corrosive sublimate, cannot be so well applied in private practice, as the patient is generally left to his own guidance. After one or more cauterizations the ulcer, when presenting pure pus and a granulating surface, is to be dressed with a weak solution of the same agents, the strength being from 12 to 24 centigrammes to 3.75 grammes of distilled water, or with an ointment. Under this treatment the formation of epithelium and cicatrization is brought about. The removal of the induration takes place later. Erosions, with slight secretion, seated upon indurations, should be covered by gray plaster. In cases of lesions of the vagina, the female urethra, the tongue, the tonsils, and the lips, where dressings are not applicable, cauterization should be frequently performed, and great attention paid to cleanliness. For ulcers and erosions in the male urethra, caustic agents should be applied, and a piece of bougie, about one inch in length, be introduced and retained by means of adhesive plaster. Papules, indurations, and ulcers seated on the inner surface and on the margin of the prepuce, require in most instances the removal of the skin. By this proceeding the surgeon may prevent extensive and wide-spread destruction of the glans and urethra. Isolated dry papules covered with epithelium and situated on the genitals, the mouth, and other parts of the body, should be painted with a solution of corrosive sublimate in ether or spirits of wine (1 part to 8.) Suppurating papules, however, can only be dressed with a weak solution (6 centigrammes to 30 grammes.) Papules breaking down into pus are to be treated in the same way as ulcers.

Pregnant women affected with considerable induration about the genitals should at once be treated by inunction. Before delivery those indurations which are likely to be much irritated during parturition should for the most part be removed. For lying-in women coming under treatment with similar affections, the surgeon should prescribe the inunction cure about the fourteenth day after the delivery.

With regard to caustic agents for ulcers, the sulphate of copper in a saturated solution is of all useful agents the best, as it acts thoroughly on the tissues saturated with pus, and does not destroy the surrounding integument. For the destruction of deeply-seated tubercles caustic potash is the best agent. The action of this can be immediately arrested by adding acetic acid, whilst the parts adjacent to the wound are to be covered with fat.

Papules in the mouth and on the fauces are cauterized by Sigmund with a solution of corrosive sublimate, but in this proceeding caution is recommended. Simple erosions on hardened parts in the mouth and other parts should be covered by good adhesive plaster of soap and mercury. A mixture of corrosive sublimate and collodion is not to be recommended, as this prevents the discharge of the secretion. All the other remedies recommended by old and recent writers are rejected by Sigmund, as these form eschars, beneath which pus collects, and, moreover, because they stain the skin and soil the linen. The actual cautery is a most convenient destructive agent for papules and ulcers the anatomical seat of which permits such treatment. The eschar thus formed adheres closely, whilst cicatrization goes on at the loosened edges. This proceeding, however, is applied only in a few cases, as the sight of the instruments, when these are once known to the patient, excites a panic of terror.

SECT. II.—SPECIAL QUESTIONS IN SURGERY.

(A) CONCERNING THE HEAD AND NECK.

ART. 156.—*Two Cases of Trephining.*

By Dr. COPMANN.

(*Berliner klinische Wochenschrift*, No. 8, 1869.)

Marie E., aged eleven years, came under the care of Dr. Copmann on November 16th, 1867, to be treated for supposed chronic encephalitis. The child, well-developed for its age, complained of lancinating pains in the frontal region and of vomiting. The latter symptom had lasted for two days, and immediately followed the introduction of food. The child, when questioned, declared that she had received a few days previously a violent blow upon the head with a sharp hook. In fact, traces of an injury were found at the posterior part of the right parietal bone. At this region was observed a wound about four lines in length, the margins of which were swollen, hot and painful. This wound was opened with a probe, and exit given to about a teaspoonful of thick pus; the pain of the head was much relieved after this little operation. As the child suffered much, the exploration of the deep-seated parts of the wound was put off until another day. The tongue was dry, there was great thirst, loss of appetite, constipation; the pulse was slow, the pupils slightly dilated; intelligence unimpaired.

Treatment.—Cataplasms were applied over the wound, and enemata administered.

Nov. 17th.—Has had a calm night; no vomiting. Pulse more rapid; no cephalalgia; pupils still dilated. Slight suppuration of the wound, which remains constantly painful.

Nov. 18th.—*Statu quo.*

Nov. 19th.—Same state as yesterday. The wound not very painful, and can now be explored with a probe. Dr. Copmann made out the existence of fracture of the cranium, with depression of a small piece of bone about three lines in extent. The borders of the fracture are sharp and dentated.

Nov. 20th.—Vomiting appeared in the course of the night; the pulse slower. The wound was enlarged by means of an incision in order to permit the introduction of the finger; about half of a teaspoonful of viscid pus flowed away. Trephining was thought of, but the good state of the strength of the patient, and her early age, induced Dr. Copmann to put off the operation.

Nov. 21st.—Violent cephalalgia in the anterior half of the head. General condition the same. Four leeches applied to the temples brought rapid relief.

Nov. 24th.—The pains have returned with renewed intensity in the anterior part of the head. A fresh application of leeches brought but slight relief. Slight convulsive movements were observed in the arms and legs. The wound is very painful, suppuration scanty. Pulse slow; transient delirium.

Nov. 25th.—Patient has had a very restless night, and has been affected with delirium and vomiting. Calomel has been administered and leeches applied, but without success. It was decided to perform trephining on the evening of the 26th. The wound was then enlarged; the trephine applied, and an osseous splinter removed which had been implanted vertically into the dura mater; the dura mater was of a deep blue color, and presented a small orifice of the size of a pin's head, from which there was a discharge of pus. A loose bandage was applied over the wound, and ice placed on the head; calomel was administered internally.

Fresh leeches were applied on the following morning. The patient, however, did not regain consciousness; the clonic convulsions became general, and death took place on the morning of the 27th.

Nov. 30th.—Autopsy. The cranial vault was perfectly intact, with the ex-

ception of the orifice produced by the trephine; all fragments had been removed at the time of the operation. The dura mater presented a wound between three and four lines in length, and about one and a half line in breadth; below the dura mater this wound extended for about three lines into the cerebral mass, and at this spot there was a small abscess of the size of a filbert. On the dura mater were found, in the centre of pus, five small osseous scales. There was marked vascularity of the brain and its membranes; below the dura mater was a thick layer of pus, which extended over the whole of the anterior half of the hemisphere.

Case 2.—On May 22d, 1868, at six in the evening, P. H. fell from a lofty scaffold, and was immediately carried to the hospital.

The patient retained his reason, but answered slowly to questions which were addressed to him; the pulse full and slow. Over the right parietal bone was a wound about two inches in length, and directed from the right to the left side; from this there flowed a great quantity of blood. There was also a second wound less deep, parallel to the first wound, and one inch and a half in length. On examining the larger wound by means of a probe, there was found a cleft several lines in breadth, and more than an inch in length, which had rough osseous borders. The fragment corresponding to this cleft was depressed to about the depth of a quarter of an inch, and was immovable. About half an hour after the admission of the patient trephining was performed, the pulse at the time being slow, and the intelligence slightly obtuse. Chloroform was not administered, and indeed this agent if not hurtful would have been unnecessary, for during the whole operation, which lasted for nearly one hour, the patient manifested no signs of pain. In order to practise trephining the two parallel wounds were united by a transverse incision, and the rectangular flap thus formed was turned over. The hemorrhage was unimportant: the osseous cleft was completely exposed; it measured four lines in breadth and one and a half inch in length. As it was impossible to extract the depressed osseous fragment the trephine was applied to the centre of the solution of continuity. The circle of osseous tissue being once removed, it was an easy matter to extract the implicated fragment. It was twenty-one lines in length and twelve lines in breadth. Three or four small osseous fragments were at the same time removed by forceps. The wound was then washed with great care: the dura mater was intact. After the hemorrhage had been arrested the wound was covered by moist charpie. Ice was then applied to the head. The pulse was constantly slow, small, and compressible. The patient answered questions that were put to him, and respired normally.

The general condition of the patient remained excellent on the following day: there was no reaction; the man complained of a headache and of want of appetite.

The third day after the operation, the wound was suppurating and had commenced to granulate. The state of the patient was excellent up to June 10th, when in the middle of the day there was a sudden but slight feverish attack. In the evening the fever had disappeared.

June 11th.—Has had a good night. Wound looking well. No cephalalgia, pulse low. About one hour after dinner the patient was attacked with violent rigors, which lasted for nearly one hour, and were then followed by a state of heat. Sulphate of quinine ordered.

June 12th.—No chills this morning; but a state of heat at 3 o'clock, with acceleration of the pulse.

June 16th.—Has had no more feverish attacks. Wound looking well. Sulphate of quinine to be discontinued.

June 26th.—The patient remains up from bed during the day and takes walks. The wound is cicatrizing: two large scales of bones have been removed.

July 14th.—To-day the patient has had a severe rigor, lasting for half an hour, and followed by fever. The wound is no longer depressed, as previously, but is swollen: the granulations are pale, and the suppuration diminished. No free scales of bone can be found by means of the probe.

July 15th.—More febrile attacks: the wound looking better.

July 17th.—General condition excellent. The wound is cicatrizing.

From time to time Dr. Copmann was obliged to extract small scales of bone.

On August 18th cicatrization was almost complete. The patient left the hospital on September 14th. The scar was covered by a plate of copper inclosed in a double sheet of gutta percha.

The patient was again seen on November 10th. He was then considered as cured, and had taken again to his former occupation.

Dr. Copmann insists upon the advantages of immediate trephining. He is persuaded that he would have saved his first patient if he had decided upon operating at an early period.

ART. 157.—*On the Origin by Contagion of Catarrhal Conjunctivitis.*

By Professor GOSSELIN.

(*Archives Générales de Médecine*, No. 4, 1869.)

Professor Gosselin gives full reports of several cases of conjunctivitis which tend to prove that the conjunctiva, like other mucous membranes which are exposed to the air—as, for example, those of the mouth, larynx, and pharynx—is subject to contagious inflammations, and particularly that simple catarrhal and muco-purulent conjunctivitis may be engendered:—

1. By other conjunctivites equally catarrhal and non-purulent;
2. By actively purulent conjunctivitis;
3. By granular conjunctivitis or blepharitis consequent or not upon suppurative inflammations.

The following conclusions are given with regard to prophylactive measures:—

1. To separate, if possible, the affected subjects from those who are not affected.
2. In cases where isolation is not possible, to recommend the use of handkerchiefs and towels exclusively given up to the patients.
3. To avoid all contact between the faces of those affected and of those remaining unattacked.
4. To watch carefully the eyes of individuals who live in the same place, and to treat the conjunctivitis from its commencement, in order not to allow it to pass into a chronic state, which might be ultimately complicated by keratitis, and, consequently, irremediable lesions of the cornea.
5. To insist particularly upon these recommendations in places where large families reside in small chambers, in schools, asylums, children's hospitals, where the accumulation of many individuals in the same atmosphere predisposes to contagion.

ART. 158.—*On the Treatment of Chronic Granulations of the Conjunctiva.*

By J. SOELBERG WELLS, Professor of Ophthalmology in King's College, London.

(*A Treatise on the Diseases of the Eye*, 1869.)

"In the treatment of this disease, our first care must be to place the patients under the most favorable sanitary conditions. They should take a good deal of out-door exercise, their eyes being protected against wind, dust, and bright light by blue glasses. They should be warned not to expose themselves to any irritating cause—as, for instance, tobacco smoke. For this reason no smoking should be allowed, except in the open air, and then only to a limited extent. The general health must also be attended to. Not only may the patient be naturally weak and feeble, but the severity and protracted course of the disease are but too likely to affect the health, and at the same time to exercise a most depressing influence upon the mind. The diet should be nutritious and easily digestible, and malt liquor and wine will generally be very beneficial. If the patient is scrofulous, or weak and feeble, cod-liver oil, steel, and quinine should be freely given, and every care taken to invigorate the constitution as much as possible by open air exercise, sea-bathing, or even a voyage.

"In our local treatment we must be chiefly influenced by the fact that the maintenance of a certain degree of inflammation of the conjunctiva is necessary and desirable in order to produce and hasten the absorption of the granulations. Our chief efforts must, therefore, be directed to maintain the requisite degree of inflammation, and so to balance it that it shall not, on the one hand, be too considerable, nor, on the other, too slight for promoting the absorption.

"The greatest stress must be laid upon the fact, as Arlt and Stromeyer remind us, that the purpose of the cauterization is *not* that of chemically destroying the granulations, for this would lead to great and lasting injury of the conjunctiva from the destruction of its secreting organs, and the formation of dense cicatrices; but its object is to maintain a certain degree of hyperæmia and inflammation of the conjunctiva, in order to hasten absorption of the granulations. The nature and strength of the caustic must vary with the effect we desire to produce. If there is much swelling of the conjunctiva and papillæ, together with a thick, copious muco-purulent discharge, the crayon of nitrate of silver and potash should be applied, its effects being at once neutralized by the solution of salt and water. The cauterization may be repeated every forty-eight hours. If the patient cannot be seen sufficiently frequently for this, he should use a collyrium of nitrate of silver (gr. ij—iv, ad ℥j), or of sulphate of copper of the same strength, two or three times daily. In these cases we may also first try the effect of a collyrium of acetate of lead, or the chlorine water, in order to see if the conjunctiva will bear the nitrate of silver. The use of very strong solutions of nitrate of silver (gr. x—xx, ad ℥j) is not judicious, as they are but too likely to destroy the granulations, and, with them, the normal structure of the conjunctiva, instead of simply favoring their absorption. I think the crayon of nitrate of silver or copper is always to be preferred to the use of collyria, as we can regulate and limit the effect of the cauterization according to our wish, confining it, if necessary, chiefly or entirely to certain portions of the conjunctiva. If there is considerable swelling of the conjunctiva, especially at the retro-tarsal fold, superficial scarification may be employed with much advantage. After the cauterization, cold compresses should always be applied to the eyelids, in order to diminish the inflammatory reaction, or the cold douche or pulverizer may be employed. If the conjunctivitis is so slight as not to produce the absorption of the granulations, but rather to encourage their development, it will be necessary to increase the hyperæmia and inflammatory swelling of the conjunctiva. The repeated application of sulphate of copper in substance is very effectual for this purpose. The same effect may also be produced by the application of warm compresses to the eyelids. Von Graefe has found this treatment very successful, especially in those cases in which the granulations tend to extend chiefly into the conjunctiva, and in which there is not a sufficient degree of hyperæmia and swelling of this membrane. These warm compresses should, however, only be applied for a limited period, otherwise they may produce too considerable an inflammation and too great an irritability of the eye.

"In treating chronic granulations, it will be necessary occasionally to change the caustic, as it loses its effect after a time from the conjunctiva becoming accustomed to it. Thus alum, acetate of lead, or tannin may be substituted with advantage for the nitrate of silver and sulphate of copper. In some cases the acetate of lead should be rubbed in (finely powdered) between the granulations. This treatment, which was first adopted by Bruss, has been practised with great success, especially in Belgium. I have employed it with much benefit in those cases in which, together with but a slight secretion and lachrymation, the granulations are prominent and fleshy, being arranged in rows, with deep furrows or chinks between them. Finely-powdered acetate of lead should be freely rubbed into these furrows until they are quite filled up. The effect of this is, so to speak, to choke the granulations, their vitality is impaired, and they gradually dwindle down in size and disappear. After the application the conjunctiva looks marbled or tattooed of a red and white color, the chinks are filled up, and it soon becomes smooth and even. An important fact in connection with this treatment is that the discharge is now no longer contagious; at least in Belgium it is always considered, when the acetate of lead has been rubbed in, that the patients may go with impunity amongst healthy persons,

so that soldiers affected with granular lids need no longer be confined and separated from the others, but may, if they are able, resume their duties without danger of spreading the disease. The acetate of lead is best applied in the following manner: The eyelids having been thoroughly everted and the retro-tarsal fold brought well into view, a small portion of very finely powdered acetate of lead is then taken up in a small cuvette and dusted over the granulations, being well rubbed into the chinks, so as to fill them up. The watery discharge from the conjunctiva forms the powder into a thick plasma, which runs through and fills up the furrows between the granulations. When it has been applied to every portion of the granular conjunctiva, a small stream of cold water, either from a sponge or an India-rubber ball syringe, should be made to play upon the conjunctiva, in order to wash away any superfluous quantity of the powder, which comes away in small white flakes. Both eyelids may be everted at the same time, so as to fold over and protect the cornea, the powder being rubbed over both eyelids, and the stream of water applied before they are replaced. But if the simultaneous eversion of both lids is difficult, or the patient very restless and unruly, it is better to evert one lid at a time. It is best to commence with the lower lid; for if the lead be applied first to the upper, the lower becomes reddened and bathed in tears, so that it will not only be difficult to see the chinks, but the powder will be readily washed away by the tears, whereas the conjunctiva of the upper lid, from its greater expanse, can be more readily dried, and the tears are hence of less consequence.

"Directly after the application there is an increased flow of tears, the ocular conjunctiva becomes injected, and this is accompanied perhaps by considerable irritation, heat, and smarting in the eye, but these symptoms will soon yield to the application of cold compresses. In about half an hour the lids should be everted and the conjunctiva again washed by a stream of water, in order that any remains of the lead may be removed. The conjunctiva will now be more smooth and even, the chinks between the granulations being filled up and obliterated by the powder. If the application has been insufficient or too superficial, the granulations will reappear after a time and increase in size and prominence, rendering a fresh application of the remedy necessary. If the acetate of lead is carefully applied and the surplus well washed away, I cannot say that I have ever seen any disadvantage arise from its employment, nor have I found that it roughens the lids, and thus irritates the surface of the cornea. The best mode of applying the solution of the acetate of lead is to evert the lids, and, after drying the conjunctiva with a piece of linen, to apply it with a small brush to the granulations, this being neutralized after a few seconds with tepid water. The strength of the solution should vary from six to ten or twenty grains to the ounce, according to the condition of the conjunctiva, and it should be applied every day, or every other day.

"I most strongly object to the application of undiluted liquor potassæ to the granulations, as this not only more or less destroys the stroma of the granulations, but gives rise to very considerable cicatrices, leading to ectropion, &c.'

ART. 159.—*On Disturbances of Vision consecutive to Morbid Changes in the Teeth and to Operations performed on these Organs.*[1]

By M. AUGIAS-TURENNE.

(*Archives Générales de Médecine*, No. 3, 1869.)

Morbid changes of the teeth, or operations practised on these organs, may determine visual disturbances.

These disturbances generally consist in a diminution of the visual power, which may extend even to complete abolition. This is generally accompanied by dilatation of the pupil without apparent organic changes.

In other cases, however, the change of vision takes place from disturbances

---

[1] Communicated to the Académie de Médecine.

of the nutrition of the eye, caused by paralysis or reflex contractions of the vaso-motor nerves.

Young subjects are principally affected.

The teeth of the upper jaw, and among these the molar teeth, seem to be almost exclusively the cause of these disturbances. The affections disappear with remarkable rapidity after extraction of the teeth, without it being necessary to resort to any other treatment.

ART. 160.—*On Tubercles of the Retina and Choroid as Diagnostic Signs of Tubercular Meningitis.*[1]

By M. BOUCHUT.

(*Archives Générales de Médecine*, No. 12, 1868.)

1. Tubercles may exist in the retina and choroid, and then indicate either tubercular meningitis or general tuberculosis.

2. When a feverish subject presents disturbances of intellect, movement, and sensation, and is affected at the same time with tubercular granulations of the choroid, the existence of tubercular meningitis may be determined.

3. Turbercles of the choroid are among the rarest manifestations of the tubercular diathesis.

4. Tubercles of the choroid are presented under the form of pale miliary granulations, which are sometimes shining and pearly.

5. Retrogressive granulo-fatty metamorphosis of the normal elements of the retina and of the choroidal cells is the origin of tubercles of the retina and choroid.

ART. 161.—*On the Ophthalmic Signs of Constitutional Disease.*

By ERNEST HART, Ophthalmic Surgeon St. Mary's Hospital.

(*British Medical Journal*, February 13.)

At a meeting of the Harveian Society of London, held January 21st, Mr. Ernest Hart read a portion of a detailed paper on the Ophthalmoscopic Signs of Constitutional Disease. The nervous and vascular tissues of the eye, as observed by the ophthalmoscope, gave characteristic indications, according to the author, not only of a number of cerebral and spinal diseases, but of many cardiac, visceral, and vascular diseases. The part of the paper read (the whole being too long for the purpose) gave a minute description of the changes of the optic nerve and retina in spinal and cerebral affections. The general views were in most respects opposed to those of Bouchut, whose conclusions were not accepted; those of Galezowski being stated to be more accurate. Mr. Hart said that he had been called upon, from time to time, to give an ophthalmoscopic diagnosis to physicians of St. Mary's Hospital, not only with a view to the elucidation of the degree of organic change accompanying any particular series of brain symptoms; but in order to help to distinguish between simulated or hysterical and real disease. In private life the ophthalmoscope had decided the diagnosis when the question lay between typhoid and meningitis; and had indicated more than once impending cerebral or other organic disease where only failure of sight was complained of. In a recent case, he had prevented an insurance company from advancing a heavy sum on the life of a gentleman already insured, but in whom there had been ground for ophthalmoscopic observation, owing to an anomaly of sight. The examination led to the conclusion that the arteries of the brain were atheromatous, which subsequent events have confirmed. Mr. J. Z. Laurence said the subject was one which only ophthalmic surgeons in connection with general hospitals had much opportunity of following out, and constituted in itself quite a speciality in

---

[1] Communicated to the Académie des Sciences.

ophthalmic research. The paper was so full of valuable data that he hoped it would soon be printed for reference and discussion.

Art. 162.—*On the Treatment of Granular Ophthalmia and Pannus by Inoculation.*

By J. G. Hildige, F.R.C.S.I., Surgeon to the National Eye and Ear Hospital.

(*Dublin Quarterly Journal*, February.)

The following cases, treated at the National Eye and Ear Hospital, Mr. Hildige writes, show the efficacy of inoculation as a remedy for the cure of the above diseases, when all other means had proved unavailing:—

"Case 1.—Ellen B., aged seventeen, of a healthy and tolerably strong appearance, applied for medical advice under the following circumstances. She stated that when she was four years of age her eyes commenced to be affected, and ever since that time, during a period of thirteen years, she had been almost continually under medical treatment, her sight being occasionally so bad that she was obliged to be led about. On examination I found the cornea of each eye extremely vascular, and so opaque that it was with difficulty she could discern large objects placed near her. The mucous lining of the upper eyelids was covered with granulations and much thickened; it also showed signs of long-continued treatment. She suffered considerably from pain in the eyeballs and temples, which from time to time became so severe, particularly at night, that sleep was completely banished from her pillow. As the usual remedies were followed only by temporary improvement, and as she had been suffering so long from the disease, I resolved to have recourse to inoculation, a remedy which I had seen elsewhere employed with the best possible results, and which was not contra-indicated in this case. The pus was taken from the eye of an infant suffering from acute purulent ophthalmia, and was introduced by means of a camel-hair brush between the girl's eyelids. After the expiration of twenty-four hours considerable irritation, accompanied by pain, set in, and at the end of forty-eight hours both eyes were suffering from an acute attack of purulent ophthalmia. Active antiphlogistic treatment was employed, the disease ran a favorable course, and at the end of fourteen days the inflammatory symptoms had subsided, leaving both corneæ perfectly sound, and showing indications of commencing improvement. Three weeks later both corneæ had become so transparent that the patient could read large type; and at present, four months from the day of inoculation, her eyes are perfectly sound, and her sight so good that she can read small type and see distant objects more distinctly than ever she remembers to have done in her life."

Cases 2, 3, and 4 are similar in many respects.

It appears that Mr. Hildige has treated other cases of opacity by this means, and with the same beneficial results. He considers that it may be safely resorted to in every case of granular ophthalmia, except when it is contra-indicated by a strumous or syphilitic diathesis, in which cases diphtheritic inflammation would be the inevitable result.

Art. 163.—*On Optic Neuritis and Perineuritis.*

By Dr. Xavier Galezowski.

(*Archives Générales de Médecine*, No. 12, 1868; No. 1, 1869.)

The following conclusions are given at the end of Dr. Galezowski's memoir:—

1. Optic neuritis is very often produced in dependence upon cerebral tumors and attacks of meningitis.

2. The cerebral tumors inducing optic neuritis are almost exclusively those which are seated in the neighborhood of the central organs of vision; it is only basilar meningitis seated about the chiasma, which may result in inflammation either of the tissue surrounding the optic nerve, or of the proper tissue of the nerve itself.

3. To distinguish by ophthalmoscopic signs meningitis from a cerebral tumor is in most instances impossible, and it is necessary for this purpose to have recourse to the rational and general symptoms of these affections. It ought, however, to be remarked, that progressive diminution of vision leading to complete blindness, is most frequently the consequence of a cerebral tumor; if, on the contrary, vision be diminished or brightened so that exacerbations or remissions of the disease can be determined, then one can justifiably conjecture a meningitis.

4. Optic neuritis is transformed in the course of some time into a partial or complete atrophy of the papilla. This atrophy, according to Dr. Galezowski, is to be distinguished from progressive atrophy, and especially from that form which has been observed in locomotor ataxy, by the irregular contours which lose themselves in exudation; also by the marked varicose condition and sinuosity of the central vessels.

To these purely ocular phenomena it is necessary to add the general symptoms which are peculiar to each of these affections. Occipital pains, convulsive or epileptiform attacks, weakness of the legs, vertigo and vomiting, and paralysis of the seventh, eighth, or fifth pair almost always accompany tumors which are seated in the neighborhood of the tubercula quadrigemina, and in the anterior and superior part of the cerebellum, the cerebral peduncles, the fourth ventricle, &c.

ART. 164.—*Treatment of Disease of the Lachrymal Sac.*

By Prof. ALFRED GRAEFE, of Halle.

(*Zehender's Monatsblätter für Augenheilkunde*, August, 1868; and *New York Medical Journal*, February, 1869.)

The author suggests one or two new points. To aid in voiding the sac of secretion, he causes the patient to perform the manœuvre of Valsalva, namely, blowing forcibly while mouth and nose are closed. If this be done immediately after a probe has been passed, the air will find its way into the lower end of the nasal duct and escape by the canaliculi, bringing with it more or less of the catarrhal secretion. For two or three days only will this manœuvre be practicable, when another introduction of the sound will permit it to be repeated for another period. To avoid the accident of emphysema, which might ensue if the probe have torn the mucous membrane, Professor Graefe cautions us to put the finger lightly on the sac, as the patient is blowing for the first time. After the passage has been dilated a little, there is slight danger of this occurrence.

Professor Graefe also uses a douche apparatus, recommended by Dr. Herzenstein, in place of a syringe, for effective cleansing of the passages—a small tube is inserted into the canaliculus, and this by a flexible tube connected with a pump.

But cases are sometimes met in which the stricture is wholly overcome, and the catarrhal secretion dried up, while epiphora continues. In one such case the cause was found to be hypertrophy of the caruncle, which, by pressing on the canaliculus, impeded the entrance of tears. The excision of the caruncle relieved the epiphora. The mass need not be very large to cause such trouble; and in cases where the duct is brought to proper size, the catarrh of the sac is cured, the eyelids are in correct position, and the muscular apparatus sound, and yet epiphora continues, Professor Graefe recommends the trial of this operation of excision of the caruncle.

ART. 165.—*Treatment of Stricture of the Lachrymo-nasal Passages by Internal Division.*

By Dr. WARLOMONT.

(*Annales d'Oculistique*, tome lx., Sept.—Oct., 1868.)

The mode of treatment suggested by Dr. Stilling has been adopted by Dr. Warlomont, and in the above paper he narrates the history of eight cases, and says that he has treated a score besides, whose history is absolutely the same. Whether the cure will be permanent, he does not affirm positively, but in some an experience of five or six months has exhibited complete relief from lachrymal trouble.

One case (obs. iv.) is that of a young and pretty girl, twenty years old, who for more than three years had been treated by Bowman's probes, and could pass No. 4. This was done twice a week, but the epiphora continued. After having Stilling's operation done, she found herself in a week more comfortable than for three years previous. The cure became complete, and was known to remain for five months.

In some cases the canal was found beset by rugosities, and the obstruction to be so hard as to creak under the knife. It was necessary sometimes to use considerable force. In all cases the small conical sound of Weber was first used, both to explore the canal and prepare the way for the knife, by dilating the passage as fully as it was capable of doing. After the stricture had been freely divided, an injection of warm water was sometimes made on the following day. Usually the catarrhal secretion from the sac began to diminish, the swelling of the sac to subside, and fistulous openings to close without any further treatment. Slight conjunctivitis would also disappear, while troublesome ophthalmia tarsi and ectropium would require a few weeks' treatment.

If, in extreme cases of lachrymal catarrh, the disease did not disappear spontaneously, Dr. Warlomont recommends a proceeding, devised by Dr. Libbricht of Gand, for facilitating the introduction of medicated fluids into the sac. A stylet made of platina, in size equal to Probe No. 1 of Bowman, and grooved on three sides, is worn in the nasal duct. It is about one and a half inches long, and bent at its upper end into the form of a hook, so as not to sink out of place. It is designed to favor the penetration of fluid, which may be simply dropped into the inner angle of the lids. The substance preferred by Dr. Libbricht is chloride of zinc in solution of about gr. ½ to ʒj, dropped into the eye three times daily, and continued seldom longer than two or three weeks. This mode of proceeding is a good substitute for injections by the syringe, which require to be done by the physician, and are consequently not done as often as the disease requires.

ART. 166.—*The Application of Artificial Eyes* (*Prothesis Oculi*).

By J. SOELBERG WELLS, Professor of Ophthalmology in King's College, London, &c.

In his elaborate treatise on *The Diseases of the Eye*, Mr. Wells writes: The use of an artificial eye should not be allowed until five or six weeks after the excision—until the cicatrix has become firmly united, and the parts are quiet and free from all irritation. If the eye has been removed on account of sympathetic irritation of the other, special care must be taken that no artificial eye is worn until all the sympathetic symptoms have permanently disappeared for some months, and the eye must be carefully watched for some time afterwards, lest the artificial eye might re-awaken them. Indeed, the wearing of an artificial eye for too long a time, so that it sets up great irritation, may even give rise to sympathetic disease.

At first a small eye should be worn for a short time each day, and then, when the parts have become accustomed to it, and there is a complete absence of all

symptoms of irritation, a larger one may be adopted and worn for a longer period, and at last the whole day, but it should *always be removed at night.* After the lapse of some months the internal surface of the eye becomes rough, and as this is a ready source of irritation and discomfort, a new one is required.

As the insertion and removal of the artificial eye require some little knack and practice, Mr. Wells subjoins the following concise and plain rules, which are given to the patients at the Royal London Ophthalmic Hospital:—

Instructions for persons wearing an artificial eye.—It should be taken out every night and replaced in the morning.

To put the eye in.—Place the left hand flat upon the forehead, with the fingers downwards, and with the two middle fingers raise the upper eyelid towards the eyebrow; then with the right hand push the upper edge of the artificial eye beneath the upper eyelid, which may be allowed to drop upon the eye. The eye must now be supported with the middle fingers of the left hand, whilst the lower eyelid is raised over its lower edge with the right hand.

To take the eye out.—The lower eyelid must be drawn downwards with the middle finger of the left hand, and then with the right hand the end of a small bodkin must be put beneath the lower edge of the artificial eye, which must be raised gently forward over the lower eyelid, when it will readily drop out; at this time care must be taken that the eye does not fall on the ground or other hard place, as it is very brittle, and might easily be broken by a fall.[1]

After it has been worn daily for six months, the polished surface of the artificial eye becomes rough. When this happens, it should be replaced by a new one; for, unless this is done, uneasiness and inflammation may result.

ART. 167.—*A Case of Calcification of the Choroid, Ciliary Processes, Crystalline Lens, and Capsule.*

By CHAS. A. HART, M.D., New York.

(*New York Medical Journal*, December, 1868.)

J. Krissinger, aged about fifty-five years, was presented to Dr. Hart, June 25th, by Dr. W. A. Garman, of Berlin, Somerset County, Pa., who requested him to examine the patient for a supposed cataract.

The history rendered was as follows: Twenty years ago the patient began to experience a loss of vision in both eyes, which, after a considerable period, rendered him totally blind in the right organ, vision being still preserved to a limited extent in the left; this condition being attended with considerable pain, relief was sought, and he presented himself to Dr. Gross, of Berlin, who pronounced his case one of hard cataract, and finally attempted the operation of depression, which afforded no relief. He has been the subject of frequent rheumatic attacks. Objectively the appearances presented, when Dr. Hart saw him, were as follows: The globe was atrophic, the cornea presented evidences of former inflammatory action, having a roughened and semi-opaque appearance. The pupillary space was occupied by a dirty yellowish-white body. The iris having lost its power of action, was uninfluenced by either light or solution of atropia.

Neither the ophthalmoscope nor concentrated light revealed anything beyond the dense character of the lens.

The patient was very much distressed by the constant pain he was suffering, and there seemed to be no chance of relief other than enucleation, which being proposed, was accepted. Accordingly Dr. Hart performed the operation on the 30th of June. The morbid changes found upon an examination of the eye were a complete calcification of the choroidal tunic, very dense about the optic disk, gradually thinning off toward the ciliary processes, which were also filled with calcified deposits, though not in a perfect state of organization; none of

[1] In order to avoid this accident, the patient should stoop over a cushion or handkerchief placed on a table or over a bed.

the true choroidal tissue could be discovered. The retina was thickened, and in several places detached; the optic disk was atrophied, with no trace of the vessels remaining. The vitreous body was broken down and changed into a fluid mass, which contained a quantity of crystalline matter resembling cholesterine, though Dr. Hart cannot assert that it was such, being without a microscope at the time. The crystalline lens and capsule were both found in the normal position; the capsule being thickened and opaque, and, when opened, grated under the knife like sand, revealing the lens shrunken in diameter and completely calcified, together with an unorganized white crystalline paste, which, having since been examined with the microscope, proves to be crystals of cholesterine with a few of the phosphate of lime. The lens was examined, by deflected light through the bull's-eye condenser, with the one-inch objective; the surface was a yellowish-white color, perforated by numerous minute foramina. Nothing resembling the minute structure of bone could be discovered. The patient recovered nicely from the operation, and has since been entirely free from suffering.

ART. 168.—*An Improvement upon Politzer's Method of Injecting Air into the Eustachian Tubes in certain Cases of Deafness.*

By JOHN BRUNTON, A.M., M.D. London.

(*Glasgow Medical Journal*, November, 1868.)

Politzer's method of injecting air into the Eustachian tubes is based upon the fact that when the *circumflexus* or *tensor palati* muscle is put upon the stretch in the act of swallowing, the mouth of the Eustachian tube is opened, and air is allowed to enter the tube.

Politzer directs the patient to take a mouthful of water; the operator then inserts a canula into the right or left nostril, as the case may be; attached to this canula is an India-rubber bag filled with air; on the patient making a sign that he is about to swallow, the operator, closing the nostrils of the patient upon the canula with one hand, so as to prevent all egress of air, as the patient swallows squeezes the bag, thereby injecting a strong current of air, which immediately rushes up the mouth of the Eustachian tube, which has been opened by the action of the *circumflexus* or *tensor palati* muscle in the act of swallowing.

This method is very useful in many cases, especially those of a catarrhal nature, often restoring the loss of hearing in a manner that seems marvellous to the patient. Nevertheless, advantageous as the operation may be, it has often unpleasant disadvantages. Sometimes the movement of the patient (the act of swallowing) and the movement of the operator (the act of pressing the bag) are not exactly in unison, and the consequence is, that unpleasant fits of coughing follow by too early pressure of the air, or no injection of air takes place by a too late pressure, necessitating a repetition of the process, which may or may not be very acceptable to the patient.

On account of this, the improvement which is described below suggested itself to Dr. Brunton, in consistence with those movements of harmony which abound in the human system. The improvement consists in allowing the patient to be himself both the subject and the operator.

The apparatus consists of an India-rubber bag (10 oz.), to which is attached a sufficiently long flexible tube, so that the bag may rest on the floor. To the other end is fixed a gum-elastic canula, which the patient passes into his nostril. He then takes a mouthful of water, and as he swallows, holding his nostrils tight with the fingers, presses the bag with his foot, and thereby injects the requisite air.

Dr. Brunton has used this apparatus a good many times, has found it invariably satisfactory, and free from the unpleasant results above mentioned. The movements are in unison.

Art. 169.—*Pruritus Cutaneus of the Meatus Auditorius.*

By Dr. Gruber.

(*Allgem. Wien. Med. Zeit.*, December 29; and *British and Foreign Med.-Chir. Review*, April.)

Dr. Gruber draws attention to this affection, which he says is either overlooked or treated too summarily in treatises on diseases of the ear. Itching of the passage is often met with during the progress of affections of the ear attended with inflammation, or oftener at the end of these when desquamation is set up; but this soon passes away. Eczema of the meatus is a severe affection, but yields sooner than eczema in other parts of the body, at least as far as the itching is concerned. The affection indicated in this paper, however, is the pruritus cutaneus of Hebra. Of this the intense itching of the meatus constitutes the only subjective or objective symptom, the lining of the passage exhibiting no trace whatever of any changed appearance. It is true that in aged persons suffering from it the passage may be found very dry, without a vestige of cerumen, but that this is no essential feature is seen in other cases in which the secretion is found in excess. The pruritus is oftenest met with in persons of middle age, and especially those in whom there exists some disturbance of the circulation. Thus, persons suffering from hæmorrhoids or large varicose veins seem very liable to it, although even children are not exempt. The itching often comes on periodically, *e. g.*, in the evening, the patient having been completely free from it during the day. Oftentimes it may be absent for months, to return again with distressing severity. In the cases seen by Dr. Gruber the affection has been strictly local, no other part of the body participating in the irritation. Sometimes, as the result of constant scratching, artificial eczema, inflammation, &c., may be set up. As a palliative during the attack a few drops of some watery or oily fluid, as glycerine or almond oil, may be dropped in with good effect. The more habitual sufferers should be taught to pencil the passage with these, or ointments, such as the *crème céleste;* and those whose night's rest is liable to be disturbed should on going to bed introduce lint imbibed with these substances, and leave it in. As a more radical means, Dr. Gruber has derived much advantage from the daily pencilling the meatus with a strong solution (gr. x ad ʒij) of the nitrate of silver. This should be done in a good light so as to avoid the membrana tympani, and must not be continued after signs of reaction appear. When this has subsided, if the itching still continue, the pencilling must again be resorted to.

Art. 170.—*The Caustic Treatment of Purulent Catarrh of the Ear.*

By Professor Schwartze, of Halle.

(*Medical Times and Gazette*, May 15.)

As the advantages of the caustic treatment of the purulent catarrh of the ear seem not to be sufficiently known, the author does not think it superfluous to call the attention of his professional brethren to this method of treatment

To decide whether the caustic treatment becomes necessary or not, the most acurate examination of the ear is required. If this examination shows no granulations upon the exposed mucous membrane of the tympanum or upon the rest of the membrana tympani, and no symptoms of ulceration of the bone, then success, Professor Schwartze writes, may be expected with almost absolute certainty.

To recognize small granulations, however, has often its difficulties to not very practised eyes. It would not surprise the author therefore to be told that the method has proved unsuccessful where, in reality, the examination bears the fault. Even the small trachom-like granules which are often found upon and near the margins of older defects in the membrana tympani, contra-indicate the application of this method. Neither those nor isolated larger ones disap-

pear, as far as Professor Schwartze's own experience goes, by touching with even the strongest solutions of nitrate of silver. They always require the application of the nitrate of silver in substance, or, if a more speedy result is demanded, the galvano-caustic cauterization. Still less benefit can the method have, of course, if there are larger polypous excrescences. In caries the ichorous discharge is somewhat limited by the cauterization, and the fetor diminished, but the cure is never in any considerable degree promoted. Astringents, even used in the weakest solutions, increase the pain, as is well known, whilst the other treatment is borne without increasing the same.

The caustic method is very aptly applied to all cases which show a hyperæmic, swollen, lax, and succulent mucus membrane, regardless of the duration of the disease. In recent cases an application twice or three times repeated will suffice. In older cases, where astringents have been used in vain for a long time, the cauterization must be more frequently repeated. The change for the better is almost without exception perceptible after the third or fourth cauterization, and manifests itself by diminution of the swelling and redness, and by a considerable abatement of the secretion. The strength of the solution used for the cauterization of the mucous membrane depends upon the existing swelling and injection. Professor Schwartze is in the habit of using fifteen grains of nitrate of silver to the ounce for the weakest, and forty grains for the strongest solution. As Wilde has recommended it in purulent inflammation of the meatus externus, the author at first touched the rest of the membrana tympani and the exposed parts of the mucous membrane with a small hair-brush attached to bent pincers. Very soon, however, he was convinced of the impracticability of this method of application, it being impossible to reach all the parts of the tympanum with the brush. He therefore pours the solution always into the ear. Before doing this it is necessary to remove all the secretions most carefully by syringing the meatus externus and by blowing through the Eustachian tube. After this the ear must be carefully wiped with the help of the speculum. The latter is best done by means of fine charpie or cotton fastened to the blunt ends of a pair of small pincers. Should some of the secretion of the injected water remain in the tympanum, the solution of course does not come at all, or at least not in the desired concentration, in contact with the diseased membrane. The pouring in of the warmed solution may best be done by a small glass pipette or a small shallow china cup. Fifteen drops of the solution are usually sufficient. The longer the solution remains in the ear the stronger of course is the caustic effect. In accordance with the state of the mucous membrane, the solution therefore is left in the ear from some seconds to one minute or longer. To bring the solution during this time as much as possible in contact with the membrane, it suffices in cases of large defects of the membrana tympani to turn the head in different directions, particularly towards the back. In cases of small perforations it will be necessary to press air through the Eustachian tube while the solution is in the ear (Politzer). A still surer success may be obtained, in the author's opinion, by applying strong pressure of the fluid column in the meatus with the help of a thick India-rubber tube hermetically applied whilst the head is slightly bent towards the opposite side. By this proceeding the solution is forced to find a way through the perforation into the tympanum, and arrives thence into the pharynx, if the mucous membrane of the Eustachian tube is not very much swollen. Those healthy parts of the mucous membrane in the Eustachian tube and the cavum pharyngo-nasale which are touched by the solution will not be hurt dangerously if neutralization at once takes place. To this end the solution is removed by turning the head to the opposite direction and by making a strong injection of lukewarm salt water immediately after it. To remove the chloride of silver and the superfluous chlorate of potash which remains in the ear, a few full injections of lukewarm water must follow. Should the caustic solution have gone as far as the pharynx, the salt water must be applied there in the same manner as the solution got there. After having repeatedly wiped dry the ear, charpie or a small setaceum of linen is introduced deep into the ear. The charpie remains there till the cauterization is to be repeated, and it shows the quantity of the matter in the meantime secreted. The cauterization must not be repeated until the eschar has been

completely thrown off. This is shown, as is well known, in the form of whitish spots sitting upon the mucous membrane. The more succulent the membrane was, the sooner will the eschar be thrown off. In exceptional cases it may therefore be necessary to apply the cauterization twice a day. As a rule, however, it will suffice to cauterize once a day in the above described manner. When the swelling decreases it will be sufficient to repeat it once every two or three days. It is not seldom the case that, even after the first cauterization, the appearance of the mucous membrane is so much changed and the secretion so considerably diminished that the solution cannot be continued in the original strength, but has to be weakened. If the cauterization is repeated too late—*i.e.*, after renewed swelling and hypersecretion of the membrane—the effect is almost as bad and slow as by the usual astringent treatment.

ART. 171.—*Mechanical Dilatation of the External Meatus of the Ear, with Compression of its Lining Membrane in Cases of Otitis Externa Acuta.*

By J. GOTTSTEIN, M.D.

(*Centralblatt f. d. Medicin. Wissenschaften*, December 1868; and *American Journal of the Medical Sciences*, April.)

The author, contrary to the commonly received opinion that in diffused acute inflammation of the external meatus of the ear any attempt at forcible dilatation of the canal would most certainly augment the existing disease, recommends this very procedure for its cure if there be the least sign of contraction of the meatus. In two cases he trusted entirely the cure of the otitis to methodical dilatation and compression by means of tents of compressed sponge. In all cases of acute diffused *otitis externa*, Dr. G. recommends the introduction, as deep as possible into the meatus, of a conical-shaped portion of pressed sponge, about 3–4 cm. long, and 2.3 mm. in diameter at its largest end, to be kept constantly moistened by a few drops of lukewarm water; the sponge to be allowed to remain for from six to twelve hours, or even longer: the moistening with tepid water to be renewed at the end of every two hours. This latter is all-important to facilitate the withdrawal of the tent. Ordinarily the introduction of the latter is not productive of pain. Its presence in the meatus gives rise only to a sense of distension; while in every instance, Dr. G. assures us, the symptoms due to the otitis rapidly diminish. When suppuration has taken place, if slight, it will be found, we are assured, to be rapidly arrested. When the suppuration is of considerable extent, under the treatment by sponge-tents the pus can be allowed a ready discharge, the meatus kept clean, and, when called for, local remedies easily applied. In all cases treated as above, the course of the inflammation, we are assured, was cut short, in many with great promptitude.

ART. 172.—*On Cancrum Oris.*

By THOMAS R. GLYNN, M.B. Lond.

(*British Medical Journal*, March 13.)

At a meeting of the Liverpool Medical Institution, held Nov. 5th, 1868, Dr. Glynn read a paper on Cancrum Oris. After alluding to its various synonyms, and the several affections which it had been used to designate, the author remarked that he confined the term to those cases in which gangrene of the lip and cheeks, one or both, was a prominent feature. He thought that evidence was in favor of its not being a specific disease; for, first, it never attacked a child as a distinct disease, preceded by characteristic symptoms, though some had affirmed that it did; second, it was always the consequence of some severe illness, especially the eruptive fevers, and most frequently measles; third, it was not infectious, though it was sometimes epidemic, but only as a consequence of the exanthemata. It had very rarely attacked several children in

a family simultaneously. Some thought that the swelling began as a hard substance of the cheek, others that the mucous membrane was first attacked. The gangrene appeared to depend upon great deterioration of the blood, from a general adynamic state which might arise from many and various depressing causes. Other parts might be attacked, but in children the gangrene commonly affected the lips and cheeks, probably from peculiarities due to age and the structure and relations of the parts. It always presented the same characters. In adults, cancrum oris was a much rarer complication of fevers than gangrene of the extremities, which also sometimes occurred in diabetes and other diseases. It was, however, not unknown amongst adults. Thus it was very common among our soldiers in the Crimea, and several cases of it had been recorded in the journals. The fact that the mucous membrane of the mouth was more prone to get out of order in children, and that measles occurred chiefly among them, would partly account for their greater liability to cancrum oris. There did not appear to be any connection between it and teething. It had been known to occur at as early an age as nine days. Girls were more subject to it than boys, and the majority of the cases occurred in large towns and manufacturing districts. Gangrene rarely attacked both cheeks, except as the result of mercurial salivation. It was emphatically a disease of the poor; unfavorable hygienic conditions acting as the predisposing cause, and the acute malady as the exciting cause. In some cases it was attended with symptoms almost like scurvy, and the author had seen a case in which there were œdema of the feet, and ecchymoses in various parts of the body. He considered it not improbable that there was some intimate relation between scurvy and cancrum oris. Mercury has been stated to be the most common cause of the disease, but this was not really the case, though it did sometimes produce it. Examination of the parts after death had not added much to the pathology of the disease. The chief point observed by Rilliet and Barthez was, that the vessels were completely obstructed by firm clots; but this was probably only a consequence. Billard believed that the sloughing was due to the swelling and œdema obstructing the circulation. The author, however, did not agree with him; he considered it to be the result of a low erysipelatous inflammation beginning in the interior of the mouth. Gangrene of the anus, vulva, &c., sometimes occurred as complications of cancrum oris. but the most frequent lesion observed after death was pneumonia, which might be secondary to the gangrene or to the disease that caused it. Pleurisy and pericarditis had also been met with. The rate of mortality in cancrum oris was excessively high. In treatment, the local application of the actual cautery, or of strong corrosives, had always been recommended, in order—1, to thoroughly disinfect the surface by destroying all dead matter; 2, to check the spread of the gangrene by destroying adjacent tissue; 3, to excite by stimulation a more healthy inflammation. The author was of opinion that, before applying escharotics, the general condition should be consulted; for if the patient were in a low and typhoid state, the caustic could only be productive of evil by irritating, and could not excite healthy inflammation. Nitric acid might be of great service at the commencement, or when there was not much depression; but its repeated application, as recommended by some, would only be productive of evil. By the use of powerful antiseptics discovered at the present day, all dead matter could be thoroughly removed from the diseased surface. The modern constitutional treatment was by tonics and stimulants. The author then gave the details of two cases which had been successfully treated by the use of chlorate of potash wash, and the internal administration of ammonia, chlorate of potash, and bark, with beef-tea, wine, and brandy. In one of these cases two relapses had taken place; one from exposure while a dressing was being changed, and on another occasion after the removal of necrosed bone. In this case a hole had been left, and the movements of the lower jaw had been interfered with; but probably these could be remedied by operation.

ART. 173.—*Case of Salivary Calculus; with Remarks.*

By JOSEPH BELL, F.R.C.S. Ed., Lecturer on Surgery, Edinburgh.

(*British Medical Journal*, February 20.)

The following cases seem to be tolerably characteristic examples of a disease not very common, and regarding which little specific information is given in the more familiar text-books:—

"CASE 1.—A. B., aged nineteen, called on me in April, 1868, in great mental distress. She was a strong, healthy-looking, and very attractive young lady. For two years she had noticed a tumor under her tongue to the right side of the middle line; but, as it seemed stationary and gave her no pain, she had never mentioned its existence to any one; for some months, however, it had been rapidly increasing, and within the last few weeks still more rapidly, and had given her most acute pain. She was now certain that she was suffering from cancer of the tongue.

"*Present Condition.*—On opening the mouth, there was seen on the right side of the tongue a red, fungating, angry-looking tumor as large as a walnut, which forced the tongue upwards so as to interfere with speech, and certainly had a most malignant-looking aspect. It was of stony hardness, and contained no fluid. Trusting to her appearance of perfect health, I excised the projecting portion of the tumor with probe-pointed scissors. Considerable hemorrhage followed, and no cavity or calculus was exposed as I had hoped. However, by cautiously continuing my incision into the densely fibrous substance of the tumor, I was at last rewarded by extracting an oval calculus, about three-quarters of an inch in length. The relief to the pain was instantaneous, and in a very few days the tumor had entirely disappeared. There has been no return.

"CASE 2.—Miss F. M., aged thirty, consulted me in December, 1868. She stated that for the last eight years she had noticed a tumor under the right side of her tongue, which had been frequently the seat of uneasy sensations; at times it had given acute lancinating pain, and latterly, from its size, had interfered with speech and deglutition. All the symptoms had been increased during the last twelve months. She had consulted at different times two different surgeons, who had both counselled delay. I found that the tumor was of stony hardness, and that a small portion of it projected forwards into the mouth. A free incision enabled me very easily to remove a calculus of peculiar shape, twisted like a ram's horn, and about an inch and a half in length, and of a bright orange color. All the symptoms disappeared along with the tumor.

"REMARKS.—Salivary calculi are generally found at the orifices of the Whartonian ducts, or in those of the smaller ducts of the sublingual glands. (Craigie's *Elements of General and Pathological Anatomy*, p. 829.) They are very rarely found in the duct of the parotid. In most cases, their presence is easily detected by a probe or even by the finger, as they project close to the extremity of the duct, and an incision over them renders removal very easy. Occasionally, even in this comparatively superficial position, they have been the cause of so much irritation as to be mistaken for cancer. (Holme's *Dictionary of Surgery*, vol. iii. p. 907.) Salivary calculi are occasionally described as either complications or causes of ranula; this seems not to be a correct way of putting the case; for though some cases are seen in which salivary calculus has caused by its mechanical obstruction of the duct a temporary collection of saliva behind it, the fluid which is liberated by its removal has not the consistence or appearance of the fluid met with in ordinary cases of ranula. In the two cases recorded above, the calculi were more deeply seated, being rather in the substance of the gland than in the duct, and the second one especially is remarkable for the long duration of the symptoms. In both the walls of the tumor in which the calculi were imbedded were very firm and hard; in neither was there the slightest accumulation of either saliva or the glairy fluid of a ranula. A case recorded by Gross, of Philadelphia (Gross's *Surgery*, 3d ed., vol. ii. p. 479), seems to

have resembled mine in the obscurity of some of the earlier symptoms. Probably, if left alone, the natural course of such calculi is, as South says (South's *Chelius*, vol. ii. p. 406), to escape by ulceration into the cavity of the mouth; but my cases showed that this may, in some cases, involve a very long and a very painful process, before any progress in such ulceration results. Excision in every case is easy, painless, and satisfactory. I have preferred, for the sake of brevity, rather to refer to authorities on this subject than to quote them."

ART. 174.—*Removal of the Entire Tongue.*

By Dr. FENWICK, of Montreal.

(*New York Medical Journal*, February.)

Dr. Fenwick, of Montreal, Canada, assisted by Professor G. W. Campbell, of the McGill University, removed the entire tongue on account of epithelioma, on the 20th of November last. The operation was speedy and bloodless, and quite similar to that of Mr. Nunneley, of Leeds, England. The mouth was entered from the floor, the incision being in the median line, between the chin and hyoid bone—the dissection being then carried between the genio-hyoid muscles. Through this opening the chain of a Chassaignac écraseur was carried on a long curved needle back to the base of the tongue, close to the epiglottis. The process of cutting through the tongue with the chain occupied nine and a half minutes. The case progressed most favorably, the patient being able to return to his home, a distance of one hundred and ninety miles, on the twelfth day after the operation. This is said to be the first occasion of the performance of this operation in Canada.

ART. 175.—*On Tracheotomy in Syphilitic Lesions of the Respiratory Passages.*[1]

By M. ULYSSE TRÉLAT.

(*Gazette Hebdomadaire*, No. 50, 1868.)

The following conclusions are given as a *résumé* of Dr. Trélat's contribution:—

1. The syphilitic lesions of the respiratory passages which necessitate tracheotomy may appear at any period of syphilis, but are more frequent during the tertiary period. They vary in nature, seat, and extent. Still, they are so much the more common as they approach nearer to the superior orifice of the larynx.

2. The commencement of the symptoms of obstruction may be rapid, but generally it is slow, and should be watched with care, as it furnishes an element of the diagnosis.

3. The attentive study of the symptoms and signs which characterize the obstructions of the larynx, and those of the trachea, demonstrate that it is possible to distinguish these two orders of lesions, which are so important to be recognized with regard to prognosis and treatment.

4. The diagnosis of these lesions is based upon the preservation of disappearance of the voice, upon the epoch of the appearance of dyspnœa, and upon laryngoscopic examination.

5. Tracheotomy gives excellent results in cases of laryngeal obstruction. In cases of obstruction of the trachea it has as yet been attended with no favorable results.

6. When the operation is indicated it should be executed without delay, as death may take place rapidly in consequence of an attack of suffocation.

7. Although tracheotomy offers but little chance of success in cases of

---

[1] Communicated to the Académie de Médecine, December 9, 1868.

tracheal obstruction, it should nevertheless be attempted after a diagnosis, which might be rectified and rendered certain during the course of the operation.

8. The operation may be modified in consequence of the nature of the lesions, and success cannot be expected unless it is possible to penetrate and dilate the contraction with a proper canula. In contrary cases the obstruction is fatal.

9. When tracheotomy is followed by recovery, the time during which the canula should be retained varies directly with the nature of the lesion. Its removal as soon as possible after the operation is indicated, and the medical treatment is then to be unceasingly pursued.

10. The employment of M. Brocas' canula (with a limited opening during inspiration) will allow the surgeon to determine exactly the time when he may withdraw the canula, and allow the wound to close without running any danger.

ART. 176.—*On the Statistics of Ligature of the Subclavian Artery.*

(*Transactions of the American Medical Association*, vol. xviii)

The following remarks on a statistical table containing 157 cases of ligature of the subclavian, are given in the report of a Committee to whom was referred the subject of this operation:—

Upon a revision of the statistics included in an appended table, and the report contained in Circular No. 6, together with the cases reported by Pirogoff, we find that the subclavian artery has been tied in 196 instances. The operation has been followed by death in 107, and by success in 88, being a mortality of 54.5 per cent.; the result of one case is not given.

As regards sex, the operation has been performed on 138 males and 14 females, which makes the ratio between the sexes in favor of the males as 9 to 1.

The age of the person operated upon is noticed in 129 cases. The youngest is eighteen years, and the oldest seventy-three years; the mean being thirty-eight years and about two months.

As regards the *side affected*, this point is noticed in 134 cases. Of these, 82 were on the right side, and 52 on the left.

The *earliest period of separation of the ligature* recorded is the 8th day, the latest the 113th day, the mean the 21st day.

In the case of *aneurisms*, the *proximal* ligature has been applied in 110 cases, with 48 deaths; a mortality of 43.6 per cent.

The *distal ligature* has been applied in 10 cases, with 8 deaths; a mortality of 80 per cent.

The number of deaths following the proximal ligature for traumatic axillary aneurism is 8 out of 24 cases, a mortality of 33.3 per cent.

The subclavian has been tied in 29 instances for *subclavian aneurism*, of which 24 were idiopathic and 5 traumatic. Of the former, the *proximal* ligature was applied in 22 cases, with 13 deaths, and the distal in 2 cases with 2 deaths. Of the latter, the whole 5 cases were treated with the proximal ligature, with 3 deaths.

Eight cases of *aneurism of the innominata* are reported, in which the distal ligature was applied to the subclavian. Of these 6 were fatal.

The subclavian has been tied for causes *other than aneurism* in 76 instances. Of these 48 were fatal, a mortality of 68.5 per cent.

The subclavian in its *first division* has been tied 13 times without a single recovery.

In its *second division* it has been tied 9 times, with 4 deaths.

In its *third division* it has been tied 174 times, with 89 deaths.

Hemorrhage occurs as a cause of death in 29 cases out of 67 reported. Next in order is *exhaustion*, 11 cases, and *gangrene*, 8. Pyæmia, pleurisy, rupture of the sac, &c., complete the list.

In looking over the table for the purpose of discovering whether there has been any diminution in the death-rate as the result of past experience, or other

causes, the percentage of mortality has been ascertained as nearly as possible for decades with the following results :—

1800 to 1810	2 cases,	1 death,	50	percentage.
1810 " 1820	8 "	5 deaths,	62.5	"
1820 " 1830	24 "	11 "	45.8	"
1830 " 1840	41 "	21 "	51.2	"
1840 " 1850	25 "	10 "	40	"
1850 " 1860	27 "	14 "	51.8	"
1860 " 1867	60 "	39 "	65	"

ART. 177.—*Case of Lipoma Nasi.*

Under the care of Mr. HULKE, of the Middlesex Hospital.

(*The Lancet*, March 13.)

A coachman, aged forty-nine, was admitted into the Middlesex Hospital on May 5th, 1868, with an enlargement and redness of the tip and sides of his nose, with dilatation of the orifices of the sebaceous follicles, which disfigured him so much that no one would engage him.

The lipoma was shaved down by repeated slices till the fibro-cartilage could be seen. The bleeding was soon arrested by pressure and ice, and the wound was dressed with unguentum simplex.

The patient left the hospital on the 1st of June, with a smooth even scar, and his personal appearance greatly improved.

ART. 178.—*On Popliteal Aneurism occurring in Diabetic Patients, and on its Treatment by Forcible Flexion.*

By M. VERNEUIL.

(*L'Union Médicale*, No. 129, 1868.)

The following conclusions were given in a paper communicated to the Académie Impériale de Médecine :—

1. The coincidence of glycosuria with spontaneous aneurisms has not yet been pointed out; it merits, however, the most serious attention, for it has a particular influence on the choice of the curative method, and moreover raises fresh questions concerning the etiology of aneurisms and the composition and properties of the blood in diabetic patients.

2. It contra-indicates the ligature in a manner almost absolute, and also renders mechanical compression very difficult by predisposing the formation of sloughs under the compressing pads.

3. Notwithstanding its mixture with glycose, the blood seems to preserve its plastic properties, or, in other terms, its aptitude to deposit within the sac fibrinous layers or active clots.

4. The anti-diabetic regimen, very different from that generally prescribed during the mechanical cure of aneurism, does not appear to destroy this aptitude. It seems therefore prudent to carry it out when the general condition requires it, and to continue it even after the apparent or real disappearance of the glycose.

5. In cases of popliteal aneurism, forcible flexion of the leg upon the thigh is a very important method, and requires to be again investigated. It is harmless, readily employed, not troublesome, since it requires neither costly apparatus nor numerous assistants; it requires some intelligence and patience on the part of the patient, and on the part of the surgeon, active watching.

6. In some cases it has been followed by very rapid success, but even when the first attempts have been fruitless, it may at length prove successful after a long employment with short sittings and wide intervals.

7. Its efficacy depends, without doubt, on certain conditions hitherto but little studied, such as the position and dimensions of the vascular fissure, the

relations, the dimensions, and consistency of the sac; in some cases it acts by causing indirect compression.

8. The prolonged faulty position of the joint presented in M. Verneuil's case no serious inconvenience; the articular stiffness gradually disappeared, and all the movements of the joint were restored.

9. The cure in this case required a long time; but it must be acknowledged that without the flexion it would probably have been impossible and undoubtedly more painful and dangerous.

10. In M. Verneuil's case some benefit was derived from the other accessory means of direct and indirect compression, but still forcible flexion had taken the chief part in the cure.

Art. 179.—*Treatment of Derbyshire Neck.*

(*The Lancet*, January 2.)

Dr. Lücke, of Berne, has lately published, in the *Berliner kl. Woch.* (Dec. 28th, 1868), an article, in continuation of a former paper inserted in the same journal, touching the method of treating hard goitre by injections of strong tincture of iodine into the parenchyma of the tumor. In small goitres, one puncture at a time, with the syringe of Pravaz half filled with tincture, seems enough; in larger growths, two punctures may be made at the same time. These injections should be renewed at intervals, which the author cannot fix beforehand. If the local and general reaction is not considerable, the operation may be pretty often repeated. The reaction may be very powerful, and it will therefore be proper not to attempt the injections when the patient is in danger of being asphyxiated by the pressure of the tumor. Dr. Lücke mentions cases where reduction of the growth took place very rapidly, and he congratulates himself on his success. When, from its mobility, the tumor cannot easily be punctured by the canula, the author advises the use of a continuous current by means of needles implanted in the parenchyma; but this method has not been very successful in his hands. Large masses of strumous glands might also be treated by injection of tincture of iodine into their interior.

(B) CONCERNING THE TRUNK.

Art. 180.—*On Pleuritic Effusions and Thoracentesis.*[1]

By Professor Dupre, of Montpellier.

(*Gazette Hebdomadaire*, No. 14, 1869.)

The author in this paper deals with the primary idiopathic collections of fluid, which he calls *sero-plastic* or *rheumatic* effusions. It is in these cases that thoracentesis is a truly sovereign remedy, as the following statistics of seventy-six cases operated on by Professor Dupré prove:—

Cases operated on in the second week, 47. Cures, 46; death, 1.
Cases operated on in the first month, 19. Cures, 5; deaths, 4.
Cases operated on in the second month, 8. Cures, 5; deaths, 3.
Case operated on in the fifth month, 1. Cured.
Case operated on in the seventeenth month, 1. Cured.

With regard to the pathogenic diagnosis, M. Dupré divides pleuritic effusions into three principal orders:—

1. The essentially *inflammatory* effusions which accompany or succeed to true pleuritic attacks. These are rapidly absorbed without the intervention of thoracentesis.

2. The serous accumulations, true *hydropsies*, which are formed in the pleuræ

---

[1] Communicated to the Académie de Médecine.

in consequence of organic lesions or general morbid changes. The predominant danger of the lesions which have caused these effusions, the nature of the effused serosity, and its incessant tendency to increase in quantity, demonstrate fully the inutility of puncture.

3. Finally, those which the author styles *rheumatic* or *sero-plastic* effusions, the commencement of which is often marked by a slight rigor and a painful sensation at some one part of the thorax. Sometimes they follow directly articular pains or sciatic neuralgiæ. In some circumstances the initial thoracic pain is very acute, and causes great impediment to respiration; but it is superficial, extended, not circumscribed, mobile, and increased by movement, apyretic or with a fever quite out of proportion. Who does not recognize here veritable pleurodynia, true rheumatism of the pectoral muscles? But it happens that during the course of this painful condition one discovers an effusion into one of the pleural cavities, obscure at first, and then gradually becoming superabundant, so as to form in time a considerable liquid accumulation. This effusion accumulates without pain, without oppression, without cough. There is no subjective dyspnœa, no fever, and the appetite and capacity for sleep are preserved. Still, there is a trace of lividity in the features, an abnormal effort of contraction in certain muscles of the face or neck, and a sudden interruption of the great respiratory movements in the midst of their evolution, the decubitus is unilateral, there is interruption, irregularity, and dicrotism of the pulse, all of which signs indicate the existence of the disease before its physical symptoms have been openly demonstrated. This affection has been described by M. Pidoux under the name of latent pleurisy.

Against such effusions as these medical treatment acts slowly, and is uncertain in its results, and in some cases powerless. The slowness of its action permits the formation of irremediable lesions or the occurrence of lamentable results, and even sudden, instantaneous, and unforeseen death.

Professor Dupré strives to demonstrate that puncturing the pleura and evacuating the effused fluid may prevent these bad results, and that this small operation adds absolutely nothing to the gravity of the situation.

Except with special indications to the contrary, the author perforates the sixth intercostal space on the right side and the seventh on the left, in the course of a line drawn perpendicularly from the centre of the axillary fold to the hypochondrium.

M. Dupré terminates his article with the following conclusions:—

1. There exist idiopathic pleural effusions, of which apyrexia, latency, and progression are the habitual characteristics.

2. They are to be distinguished from inflammatory effusions and from hydropsies by the whole of their clinical characteristics, by which they are brought near to rheumatic affections.

3. The presence of plastic serosity in the pleura and its prolonged existence there constitute a real danger. It is necessary therefore to evacuate the fluid as speedily as possible.

4. Thoracentesis practised according to the prescribed rules is absolutely harmless. Its immediate action and its direct results do not expose the patient to any danger.

5. It is necessary to perform the operation immediately in cases where the effusion has lasted longer than fifteen days, particularly when it is on the left side and occupies the whole pleural cavity.

6. In those cases where it is formed under the eyes of the observer recourse should not be had to thoracentesis until after the tenth day, and when at least two-thirds of the pleural cavity have been occupied by fluid.

ART. 181.—*Aortic Aneurism: probable Cause of its great prevalence in the Army compared with the Navy and Male Population, and consequent Remedy.*

By A. B. R. MYERS, Assistant-Surgeon, Coldstream Guards.

(*The Lancet*, February 20.)

Mechanical obstruction to the circulation is, in the author's opinion, the chief cause of this disease in the army, and is produced as follows:—

When the peasant leaves the plough and becomes a soldier, two great changes at least are gradually effected in him—viz., his limbs from being stiff are rendered supple, and his chest, which *had* nothing to restrict its movements, becomes a partially fixed, though to some an imposing-looking structure. By some experiments made with the spirometer, the author finds that men standing at "attention" with their tunics buttoned up, without their arms and accoutrements, suffer a loss of about twenty cubic inches on forcible expiration, the upper thorax remaining expanded, and consequently also the upper lobes of the lungs; whilst the diaphragm and lower lobes are brought into special requisition. Such a condition must surely impede the passage of the blood from the main trunk to its thoracic branches. Mr. Myers considers this prolonged over-distension of the air-cells of the upper lobes may weaken their elasticity, and tend to the production of tubercular disease; and this, if he mistakes not, is the opinion of Dr. Quain.

The next and main cause of mechanical obstruction is due, Mr. Myers thinks, to the manner in which the tunic is fitted round the neck; neatness being the great point studied, although, no doubt, it is tried to combine this with some comfort. Such, however, is hardly possible according to the present pattern; for the collar, fastened by one large hook, must be made to fit tightly, so that the cloth shall sit smoothly beyond it, and the amount of freedom is tested when the soldier is standing still.

How easily this will explain the frequency of faintness in the ranks after a little extra exertion. In illustration of this, Mr. Myers once measured the neck and tunic-collar with fastening of a private whilst standing at ease a few hours after he had fainted in the ranks. The former measured 15¾ inches, and the latter 16 inches, without making any allowance for the stock and the inward curvature of the hook, which comes always a little above the upper margin of the sternum. This constriction round the neck, though possibly not felt when the soldier is at rest, must be a great check to the circulation when he is using any exertion; and with the increased action of the heart at the time, the aorta must become dilated beyond its normal limits, its elastic fibres weakened, if not ruptured, and aneurism be the not improbable result.

Inspector-General Lawson draws attention to the special prevalence of disease of the heart and great bloodvessels amongst the troops at the Cape; but he does not offer any explanation of it. Mr. Myers is informed, however, that they have to endure very great fatigue in long marches over hilly districts. Mr. Lawson points out the great increase in the deaths from the above throughout the army of late years.

Mr. Myers would suggest that this might be attributable to the great alteration in the collar in 1855. The old high stiff collar, with its three hooks and stock, upon which the point of the chin rested as in a vice, though most uncomfortable, fitted of necessity loosely round the neck, and, in fact, was only an exaggeration of the present comfortable collar of the Prussian army; and old soldiers whom the author has asked state that the pressure round the lower part of the neck was not nearly so great in those days as it is now.

In 1856, the 52d Regiment, stationed in India, received the new tunic as at present worn; but the colonel, considering that the pattern of collar was objectionable, had it much enlarged at his own expense, and made to fasten with three hooks. This was worn in the regiment for eight years—namely, until its return to England; and it was universally liked by the men.

On examining the annual statistics and manuscript reports of the regiment, Mr. Myers finds no instance of invaliding or death from aneurism throughout that period, the average annual strength having been 839.

With these facts Mr. Myers feels convinced that the amount of aortic aneurism in the army may be much diminished by the tunic being fitted more loosely round the neck and upper portion of the chest; nor can he see the propriety of making any portion of the soldier's dress so tight as to place him at a great disadvantage in regard to health, comfort, and usefulness when actively employed, and especially now that the capabilities of each individual are being so much more studied than formerly.

ART. 182.—*On Resection of the Ribs.*

By M. DEMARQUAY.

(*Gazette Médicale de Paris*, February 5, 1869.)

M. Demarquay thus describes the operation for removing a rib:—

"The most simple proceeding consists in making an incision parallel to the rib or costal cartilage which the surgeon intends to remove. A perpendicular incision is then carried through each extremity of the first. These two terminal incisions should be increased in extent if it be proposed to remove more than one rib. The skin and subjacent tissues being incised, that part of the rib which the surgeon wishes to remove must be exposed. This is then isolated at one of its extremities from the pleura and periosteum. If the isolation of this portion of the bone can be readily performed, it may at once be cut through with resection pliers; if the passage of the cutting pilers be attended with difficulty, the surgeon may slip under the rib a large grooved sound, and afterwards along the groove of this a chain saw; during the use of the saw the sound should be allowed to remain, or be replaced by a spatula, in order to prevent laceration of the subjacent pleura. This having been done, the diseased bone is divided at the other extremity in a similar manner. The surgeon has then to deal with a floating portion of rib attached only at its deep surface; this must be carefully detached, leaving as much as possible of the periosteum. If several ribs require resection, it will be necessary to make the first incision parallel to two ribs and extending along the middle of the corresponding intercostal space; the two incisions made perpendicular to this should be more extensive. Immediately after the operation the vessels are to be tied, and a very simple dressing to be placed over the applied flaps. If the surgeon has had the misfortune to open the chest, it will be necessary to oppose as much as possible the introduction of air; in the dressing, the two skin flaps when brought together should be covered by bands of plaster, which are then covered by lint saturated with collodion, in order to close at once the chest. If this result can be attained, it is very probable that the air already taken into the chest will be promptly absorbed without causing any serious accidents. In fact, I have been able to produce pneumothorax in animals by carefully introducing air into the pleural cavities by subcutaneous method without any subsequent inflammatory affection resulting, as the injected air was absorbed. But if, in spite of these precautions, empyema should supervene, it will be necessary to make a free opening, in order to give exit to the pus and empty the cavity."

ART. 183.—*Treatment of Lateral Curvature of the Spine.*

By BERNARD E. BRODHURST, F.R.C.S., Lecturer on Orthopædic Surgery at the St. George's Hospital.

(*The Lancet*, May 29.)

The treatment of lateral curvature, the author writes, can only be undertaken with advantage when the cause of the curvature is understood, and further, when the order in which the various curves have been formed is understood.

It must be obvious to all who reflect on the subject that it is useless to endeavor to remove a spinal curve whilst the cause of curvature yet remains; for even should the curve be removed, it will recur so soon as the means which were adopted to remove it are discontinued, and the same cause will immediately again distort the spinal column in the same manner as before. Thus, let us, for instance, suppose that some affection of the lower limbs has occasioned obliquity of the pelvis, a primary lumbar curve and a compensating dorsal curve. The treatment which was formerly adopted was, without reference to the cause of curvature, to make pressure on the convexity of the dorsal curve. This mode of treatment was not only useless, but positively injurious: it increased the lumbar curve, and flattened still more the flattened ribs.

The course of treatment which should be adopted is, in the first instance, to remove the cause of the obliquity of the pelvis. Whatever this may be—whether it be some affection of the foot, knee, or hip—it should be treated and removed, if not before, at least at the same time as the lumbar curve is being treated. Again, when the dorsal is the primary curve, it may be treated by means of a portable instrument, while the lumbar curve is supported by another portion of the same instrument. In this form of curvature, muscular exercises are useful to develop the muscles on the concave side of the curve.

The treatment of spinal curvature should be undertaken so soon as the slightest distortion is perceived. It is difficult to remove a spinal curve at any time; especially it becomes difficult when the disposition to curvature is inherited, and it can only be removed when mechanical means are rightly directed to this end. It was with good reason that Sir Benjamin Brodie said: "The treatment of the disease cannot be begun too soon after the first signs of spinal curvature are perceptible."[1]

A slight curvature of the spine is by some considered to be a matter of such trivial importance as to be unworthy of attention. It is a very serious error to offer such advice, however, and in later years it must occasion great distress. However trivial spinal curvature may appear in the commencement, its course is necessarily to produce increasing deformity, with more or less pain, and impairment of the general health. So little are the laws of equilibrium understood, that it is imagined by some that a wry-neck, or a "growing out" shoulder, or an oblique pelvis is an affair of small importance, and that distortion will probably not increase beyond that which is at the time observed. Some even are bold enough to imagine that a child will "grow out" of these distortions. These are delusions which observation quickly dispels. When curvature of the spine, from whatever cause, has commenced, it must go on increasing until, by the formation of compensating curves, the equilibrium of the body is restored.

Having explained how pathological spinal curves are formed, and how they are compensated, so that the equilibrium of the body may be restored, the author proceeds to consider the application of mechanical means to the removal of spinal curves.

So long as a spinal curve is incipient, it may not be necessary to have recourse to mechanical support to the spine itself; but it may be sufficient to remove the exciting cause of distortion, and to develop the muscular system by means of well-directed exercises. When, however, these measures are found insufficient, support should be given to the spine itself without more delay.

If it be a fact that one curve is first formed, and that others are formed as compensatory of this primary curve—and no one can doubt it who has watched these cases attentively—then it should follow that treatment must in the first instance be directed especially to the removal of this primary curve; for to remove a secondary curve without giving efficient support to the primary curve is the most certain mode that could be devised of increasing the original curve. Having determined, then, which is the primary curve, force should be applied (not on the greatest convexity of the dorsal curve, to flatten still more the ribs and render the sternum prominent) in that direction which shall tend to restore

[1] Lectures on Distortion of the Spine not connected with Caries.

the position of the ribs, and also to restore the vertebræ, which have undergone some rotation. This is most effectively done by applying the force to be used to the lower arc of the curve, both of the primary and of the secondary curve, when the curves are formed from below upwards; and when they are formed from above downwards the lower arc of the dorsal curve should be supported, and the upper arc of the lumbar curve. When the combined forces of a well-adapted instrument are made to act in the directions now indicated—namely, obliquely towards the centre, they tend to unbend the primary curve. The movement which is thus commenced in the primary curve is often greatly assisted by muscular action on the compensating curve. In this manner the several curves are at the same time acted on and unfolded.

The time which is necessary for the completion of this unfolding process depends on the degree of fixity of the curve, and on the ability to bear the treatment. Some never shrink from a well-fitting instrument, while others cannot bear effective pressure. Among the latter are those who suffer from rickets. Again, some cases are necessarily incurable, and they must be recognized from the beginning; such as those which are produced by inflammation and its results within the thorax, from congenital malformation, and also where anchylosis has taken place, whether in angular or in lateral curvature; for in the former a slight lateral curve not unfrequently forms above and below an irregular union, and in the latter, bands or bosses of bony matter are thrown out, uniting two or more vertebræ.

It is not necessary in this place to say that it is of the utmost importance to attend to the general health in the class of cases now under consideration, for constitutional treatment is especially needed where there is debility, and debility and rickets are the principal predisposing causes of spinal curvature. At the same time, therefore, that mechanical treatment should, so far as is possible, be made conducive to the restoration of health.

ART. 184.—*Spina Bifida; Injection of Iodine; Recovery.*

(*The Lancet*, May 1.)

The rule is that these cases die. M. Roux, of Meximieux (France), has recently published in the *Bulletin de Thérapeutique* the case of a girl, six weeks old, presenting this deformity. The tumor hung from the extremity of the sacrum to the lower third of both thighs. The author first made an exploratory puncture, and removed about an ounce of a limpid fluid. He tried then the following plan: An assistant was desired to hold the tumor in such a manner as to occlude the opening into the spinal canal; the operator then injected an ounce of the following solution: Distilled water, eleven drachms; tincture of iodine, three drachms; and iodide of potassium, 180 grains. The liquid was left five minutes in the sac, the latter being kneaded with the hand of the operator. The solution was then withdrawn to the last drop by the exhausting agency of the syringe. This proceeding succeeded so well, that in a fortnight there was only a hard nucleus left, no larger than a walnut. M. Roux attributes his success to the occlusion of the canal, and to the withdrawal of the very last drop of the injected fluid.

ART. 185.—*On Kelotomy without Reduction.*

By Dr. MARC GIRARD, Paris, 1868.

(*Gazette Hebdomadaire*, No. 9, 1869.)

There are certain cases in which the reduction of a strangulated hernia is not practised after opening the sac and dividing the stricture; as when this proceeding cannot be performed and when the morbid changes of the intestine are such as to threaten its rupture into the abdominal cavity. M. Marc Girard raises to the height of a general proceeding in kelotomy this practice of non-reduction of the intestine. According to his views, non-reduction assures and

hastens the cessation of the symptoms of strangulation, and constitutes a prophylactic measure of great value against peritonitis following operations for strangulated hernia. Many arguments in favor of this practice are given by the author, and also the reports of twenty-five cases of strangulated hernia in which it was resorted to. In these cases there were twenty recoveries and five deaths. M. Girard, in discussing the conditions of success and failure, finds in these facts the demonstration that a pure and simple abandonment of the loop of intestine in the wound is attended with no danger; it is the reduced intestine that sets up peritonitis; consequently, by not practising reduction, peritonitis will be avoided.

ART. 186.—*Purgatives in Strangulated Femoral Hernia.*

By WILLIAM STOKES, M.D.

(*Medical Press and Circular*, March 17.)

At a meeting of the Surgical Society of Ireland, held Feb. 19th, Dr. Stokes, jun., brought under the notice of the society the following case of strangulated femoral hernia, which was recently operated on by him in the Richmond Hospital, not only on account of its presenting some features of peculiar interest, but also because he was most anxious to obtain the opinion of members of the society who have had practical experience in these cases, in reference to an important point in connection with their treatment after operation. "The case," Dr. Stokes states, "was one of a young man, aged twenty-four, by occupation a clerk, who was admitted into the Richmond Hospital on the 21st of last month, having been recommended to me by Dr. Gogarty. The patient stated that he had been ruptured for five years, but up to last August he never had suffered any inconvenience, having always been able to reduce it without difficulty. On the 23d of last August, while straining at the water-closet, the hernia came down and became strangulated, and shortly after he was sent to the Richmond Hospital. The patient having been brought fully under the influence of chloroform, I succeeded in reducing the hernia without much difficulty. After this the patient wore a well-fitting truss, and suffered no inconvenience until the morning of the 21st of last month, when, during a violent fit of coughing, the hernia came down and again became strangulated.

"I may mention in passing that, after reducing the hernia on the first occasion, I felt immediately after a distinct fulness in its site, which I rightly considered to be the sac which I had not succeeded in returning.

"When admitted into hospital for the second time he had all the usual signs and symptoms of strangulation, vomiting, hiccough, eructations, pain in groin, tenderness in abdomen, a small and slow pulse, and great anxiety and depression. As I had formerly succeeded in reducing the hernia, and as the strangulation was only of six hours' duration, I anticipated little difficulty in reducing it by the taxis. My anticipations, however, were not to be realized. Taxis was tried with great care, but without producing the slightest effect on the tumor. Directions were then given to put him into a warm bath, to get a full opiate, and, an hour subsequently, to get a tobacco enema and tobacco stupe over the abdomen. This treatment had the effect of relieving the pain to a great extent, but had none whatever in diminishing the tension of the tumor. I may mention also that the taxis was tried while the patient was in the hot bath, by my clinical clerk, but without success. No effort, therefore, was spared to save the patient from the risk of the operation of herniotomy. At five o'clock in the afternoon I saw the patient again, and as the hernial tumor was as dense as before, and the pain recurred and all the other symptoms had increased in intensity, I operated, and, in doing so, had the advantage of the able assistance of our president, who kindly came to see the case. As the strangulation was so recent, I determined, if possible, to perform the extra-peritoneal operation, though I had some doubts as to my being able to do so, from the fact that in this case the hernia was strangulated in an old previously unreduced hernial sac. This constituted the chief peculiarity of this case. The difficulty in reducing the hernia without

opening the sac in this case arose from the existence of extensive adhesions between the thickened unreduced hernial sac and the edges of the femoral ring. This I found when I arrived at the sac. I passed my finger all round its neck, and nowhere could I feel the edge of the ring. I then forcibly introduced a broad-bladed director between the sac and the ring, at the upper and inner margin of this ring, into the abdomen, breaking down the adhesions that had formed in this situation. The stricture was then divided in the ordinary way, and the intestine, but not the sac, returned. The operation being completed, he got a powerful anodyne draught, after which he fell asleep. The following day he got another opiate. The third day, all pain and tenderness having subsided, and the patient feeling inclined to sleep, opium was not considered any longer necessary. I need not enter into the particulars of the daily progress of this case. But this fact is worth mentioning, that there was no motion from the bowels until the seventh day after the operation, which motion was induced, not by the administration of any purgative, but by a simple warm water enema. After this the patient had one motion from the bowels regularly every day. I may mention also that the wound healed by the first intention without the adoption of the so-called antiseptic treatment, and the patient was enabled to leave the hospital on the twelfth day after the operation.

"Looking at the result obtained in this case, as well as in other cases of strangulated hernia which I operated on during the past years, and in which during the after-treatment no purgatives were administered, makes me very desirous of hearing the opinions of some of the members of the Society as to value of the administration of purgatives in the after-treatment of cases of strangulated hernia. I should be sorry to urge such a revolutionary step in surgical practice as the abandonment of purgatives in these cases, but I think that their utility in the great majority of them may be questioned. In Paris, for example, where the mortality after herniotomy is, I may say, quite unexampled, the routine practice is shortly after the operation to administer an active cathartic draught. I remember during my pupilage having seen several cases in which calomel purgatives were administered after operation. The question, however, which I consider to be of such eminently practical importance is whether, in a local enteritis, which must, to a greater or less extent, be present in all cases of strangulated hernia, we should endeavor to excite by artificial means peristaltic action at an early period, or whether we should abandon such attempts altogether, or at all events defer them until there is reasonable probability of all congestion and inflammation having entirely subsided. In other words, we should determine whether the principles which guide us in the treatment of cases of ulcerative enteritis with perforation, such as we have occasionally opportunity of observing in typhoid fever, should not also be adopted in the treatment of strangulated hernia after operation."

Professor Hargrave observed that the point referred to by Mr. Stokes was important, but not new. In his early experience it was always the practice to give purgatives if the stomach would bear them. This, however, failed, and as they obtained more pathological knowledge they saw why it had not been successful. They were endeavoring by purgatives to move a paralyzed muscle, and thereby doing more injury. Now, opium was given to afford the muscles time to recover, after which the bowels would quietly take on their natural action. He was of opinion that crude opium would be found more powerful as an anodyne, and would remain more quietly on the stomach than powdered opium. Again, if it was desirable to move the bowels, enemata were preferable to purgatives.

Mr. Wharton bore testimony in favor of giving rest to the abdominal contents in cases of strangulated hernia. This was in fact the key to success in such operations. In a case under his care constipation continued for a fortnight, and with the best results.

Mr. Collis observed that in the Meath Hospital it was the rule not to give purgatives except there was a special reason for it.

Mr. Croly said a similar line of treatment was adopted in the City of Dublin Hospital. He had operated in eight or nine cases of strangulated femoral hernia, and in one case last session, in which he was assisted by Mr. Stokes, the

bowels were not moved for seven or eight days after the operation. The patient complained of pain, and he put off using purgatives, believing them to be injurious. In eight or nine days after the operation a fæcal fistula formed, and he was satisfied if any purgative had been given the contents of the bowel would have become extravasated into the peritoneal cavity. In his last hernial operation the patient had a motion before he left the room after the reduction of the hernia.

Dr. Hewitt observed that Dr. Graves recommended the use of opium to allay peristaltic action. The great object was to keep the intestine at rest and give it time to recover. It was important that the hard feces should not be brought into contact with the softened wall of the bowel. The use of enemata might also be injurious by exciting peristaltic action in the inflamed intestines. Dr. Stokes' father many years ago pointed out the principle which should guide the practitioner in such cases where there was a tendency to rupture, and showed the advantages of large doses of opium. He (Dr. Hewitt) had given as much as twenty-four grains of opium in twenty-four hours without producing narcotism.

Dr. Darby said that in cases of lead colic, opium was one of the most valuable remedies. This had been his experience, and Dr. Martin, of Portlaw, who had many cases of the kind to deal with, found it the same. There was one point with regard to the operation which Dr. Stokes had not alluded to, nor perhaps had it ever been brought before the Society. Some years ago he saw the case of a young woman who had been operated on for strangulated femoral hernia. She told him she heard the dressers in the hospital say she had been operated on without the sac being opened. She recovered; but she came into the hospital again with a tumor as big as his two fists, and the opening into the abdomen was so free that he could put his fingers up and follow the tumor into the abdomen. She was disabled for life. No truss was of any use to her. He drew the inference that in that operation the tendon had been too freely divided; and shortly afterwards he had an opportunity of operating in a case of femoral hernia. He opened the sac, and—(here Dr. Darby was told by the president that he was not at liberty to depart from the discussion of the point raised by Mr. Stokes.)

Dr. H. Kennedy said he saw a case in which no inflammation was found in the intestine after an operation for strangulated hernia. The intestine was found to be congested, but without any trace of inflammation. He thought it might be judicious where the intestine was paralyzed to try the effect of a weak stream of electricity. He believed with Dr. Hargrave that solid opium was frequently a better preparation than others. He preferred using the watery extract of the drug.

Mr. Richardson said that when he attended Dr. Hutton's clinique in the Richmond Hospital, he frequently spoke against the premature use of purgatives after the operation.

Mr. Stokes, in reply, said that in the last case where he saw Mr. Hutton operate he heard him order ten grains of calomel to be placed on the patient's tongue. He thought it made little matter what preparation of opium was used, provided the desired effect was produced. A solution of muriate of morphia—about thirty or thirty-five drops of the Pharmacopœial preparation—was that which he preferred. He thought seven days a long time for a case to go on without a motion from the bowels, and therefore he ordered a warm-water enema; but Dr. Wharton said he had known constipation to last for a fortnight without injurious consequences, and that should render them more patient in looking for a motion from the bowels in these cases. Mr. Collis had stated the rule of practice in the Meath Hospital, namely, not to give purgatives; but it was not the invariable rule, for he recollected a case in the practice of Mr. Porter, where purgatives were given a short time after the operation—if he mistook not, on the following day. Dr. Darby's observations were most interesting, and he hoped he would draw attention on some future occasion to the modification of the operation. Mr. Croly made reference to an interesting case which he saw him operate on, and which was brought to a most successful conclusion, following the mode of treatment he had found so useful, namely, in giving nothing in the after-treatment but large doses of opium.

Art. 187.—*A Case of Lumbar Hernia.*[1]

By M. Hardy.

(*Archives Générales de Médecine.*)

M. Hardy reported a case of lumbar hernia which occurred in a female thirty years of age, who was admitted into the Hôpital Saint Louis to be treated for syphilitic paralysis. This hernia was produced after violent efforts made by the patient in order to overcome an obstinate constipation which was associated with paraplegia.

The tumor, eight centimetres in diameter, was situated in the lumbar region, above the superior border of the os ilium, and about three fingers' breadth from the anterior superior iliac spine. It was subcutaneous, furnished with a broad base, hemispherical, and about the size of the first. It was soft, painless, covered by skin of a normal color, without fluctuation, yielding on manual pressure, very sonorous on percussion, readily reducible with a characteristic gurgling sound, and returned on coughing or other efforts. The tumor could be readily and completely reduced, but reappeared even during rest in bed by an effort of coughing, which communicated an impulse to the hand placed over the tumor.

After the reduction of the tumor a triangular gap could be made out, the base of which was formed by the superior border, hollowed at this point, of the os ilium, and the remaining two sides by borders, both of which—but the posterior one particularly—were thick and rigid.

The patient could digest her food well, and complained merely of slight colic. There was no other hernia, but a similar triangular interval could be made out on the opposite side.

Art. 188.—*Note on the Cure of Acute Orchitis in Twenty-four hours.*

By Furneaux Jordan, F.R.C.S., Surgeon to the Queen's Hospital, Professor of Surgery at Queen's College.

(*British Medical Journal*, February 16.)

The following case is related by Mr. Jordan: A man, aged thirty, had intense pain, intolerable tenderness, and great swelling and induration, in both testicles, and could not stand upright. The scrotum was covered with a solution of nitrate of silver (two drachms to an ounce); a stripe of vesication was established over the upper halves of both femoral arteries by means of linimentum iodi; and the testicles supported with cotton-wool. He was well in twenty-four hours.

Art. 189.—*On Nephrotomy as a means of Treating Renal Calculus.*[2]

By Thomas Smith, F.R.C.S., Assistant-Surgeon to St. Bartholomew's Hospital, and Surgeon to the Hospital for Sick Children.

(*The Lancet*, May 15.)

The object of this paper is to introduce to the notice of the Society, for discussion and consideration, a method of treating stones in the kidney and ureter, that the author deems worthy of more thoughtful deliberation than it has hitherto received. The operation of nephrotomy, though mentioned and recommended, with certain reservations, by Hippocrates, was by him and his followers

---

[1] Communicated to the Académie de Médecine.

[2] Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, April 27.

restricted to cases in which there was an external swelling, cases in which, as they expressed it, "Nature showed the way." Even in this limited application, it is doubtful if the operation has ever been performed, except for the relief of renal abscess. So far as the author can ascertain, nephrotomy has been once employed for the extraction of calculi from the kidney or ureter. This case, which occurred in the seventeenth century, is detailed in this paper. The operation was performed on the person of Mr. Hobson, the British Consul at Venice, from whose kidney an Italian surgeon successfully removed two or three small stones, by an operation performed in the lumbar region. Mr. Hobson subsequently visited England, and was seen and examined in London by competent medical men, who have given an account of the case in the *Philosophical Transactions*. In discussing the subject of the paper, the author lays down as most desirable—1st, that we should be able clearly to recognize the existence of stone in the kidney; and 2dly, that an operation should be devised for the removal of the stone which should not put the patient's life in a danger disproportionate to the gravity of his disease and his desire for relief. A method of examining the kidney by palpation is described, by which the author has been able in one case to recognize the existence of tubercular deposits in the infundibulum of the ureter. Should it be impossible from any circumstance to employ this method of examination, so as to recognize a renal calculus, the author is of opinion that in some cases the subjective symptoms alone are so pathognomonic, that the diagnosis might be considered sufficiently clear to proceed to operation; since by the plan of operation recommended in the paper, the kidney could be made the subject of tactile examination without serious danger to life. A plan of operation is detailed by which the pelvis of the kidney can be reached so as to examine it with the forefinger without injury to any important structures.

Whether the performance of this operation would enable a stone to be removed without fatal damage to the renal tissue would (in the author's opinion) depend largely upon the shape, size, connections of the stone or stones, and the physical conformation of the patient; and while he confesses that there are cases of long-standing branched calculi that could not be removed without inflicting unjustifiable injury to the kidney or the surroundings, yet he believes that he has met with renal calculi that could have been removed without any such violence. If the conditions affecting the removal of the calculus were unfavorable, he believes that the operation would reveal these conditions without injury to the renal tissue, and could then be abandoned without having placed the patient's life in serious danger.

The author thinks that the possibility of removing a stone from the kidney by nephrotomy should first be decided by operation on the dead body of one who has died with a stone in the kidney. He hopes that this experience may shortly be forthcoming, either by others performing the operation themselves on patients who may have died with the disease, or by the kindness of some surgeon giving the author an opportunity of performing the operation under similar circumstances; and this is one of the chief reasons why the author has made this communication to the Society.

ART. 190.—*The Painless Removal of Hæmorrhoids.*

By HOLMES COOTE, F.R.C.S., Surgeon to St. Bartholomew's Hospital.

(*British Medical Journal*, February 13.)

By the use of the ether spray Mr. Coote prevents all pain during the operation. In dealing with a strictly external pile, he says that the removal may be at once effected, painlessly and safely, by first freezing the part with ether spray, and next by cutting it away with the scissors. If there is any hemorrhage, it can be easily checked by ligature or needle. Internal piles, which have no ligature, are thus dealt with: "The patient, on hands and knees, strains and protrudes the affected part. The enlarged veins are next touched carefully with nitric acid, and the part is returned, an opiate suppository being then introduced." Hæmorrhoidal swellings, which are partly internal and partly

external, and which consist of large venous trunks—which it would be dangerous to divide without precautions, and which could not be well removed by acid or by cautery—are best and safest treated by Mr. Henry Smith's clamp and hot iron.

ART. 191.—*Obstinate Cases of Acute and Chronic Gonorrhœa, successfully treated by Injections of Glycerine of Tannin.*

Under the care of Mr. J. D. HILL, of the Royal Free Hospital.

(*The Lancet*, March 20.)

The treatment which Mr. Hill says he has extensively employed in hospital and private practice was, he believes, first introduced by Dr. Ringer, of University College, who has kindly favored him with the following remarks: "For some time past I have been making observations with an injection of glycerine of tannin in chronic gonorrhœa and gleets, and have found it of great use, especially in gleets, which I believe may be removed more quickly with this injection than perhaps any other. In the acute stage of the disease a little care is necessary, or great pain is caused. This may be prevented by diluting the glycerine of tannin with equal parts of mucilage. Another point to attend to is that the injection should not be injected too far, or it causes a great and frequent desire to make water."

Mr. Hill is therefore enabled to support the experience of Dr. Ringer, not only by recent cases, but also by observations on the treatment of gonorrhœa by tannin and mucilage injections extending over some years. These injections he first used in the proportion of ten grains to the ounce, but latterly, as suggested by Dr. Ringer, he found the glycerine of tannin more serviceable, slightly modified, however, as to the diluting agent.

The following is the method which Mr. Hill recommends to all patients using injections:—

"The bladder having been first emptied, the bottle containing the lotion is to be well shaken, and about two drachms of it briskly poured into a saucer. This must be quickly drawn into a glass syringe with a bore in the nozzle equal to a No. 6 catheter. The penis is then to be held in the left hand, with the thumb and little finger respectively placed upon the superior and inferior portions of that organ close to the symphysis pubis, and the fore and middle fingers resting in like manner upon the superior and inferior surfaces of the glans close to the meatus urinarius. The syringe, with the piston withdrawn, is now to be taken up with the right hand, and the nozzle as far as its shoulder carefully passed into the urethra. Previous to injecting, the thumb and little finger of the left hand must compress the root of the penis, in order that the urethra be closed against the passage of any fluid beyond this point. When a sense of tension is felt, the syringe may be withdrawn; but the front fingers must previously be so applied as to compress the glans, and thus prevent any escape of fluid from the meatus. Next, with the thumb and forefinger of the right hand the fluid in the urethra is to be set in motion, and so kept for four or five minutes. This will be attended with a gurgling noise from the mixture of air and fluid. Thus, when the injection has so insinuated itself within the folds and lacunæ of the urethra as to saturate the openings of the follicles and mucous glands, and permeate the whole of the affected structure, it is allowed to escape.

It is conceived that by these means the bladder is protected on the one hand, and on the other there is a certainty of the fluid being applied to the affected surface of the urethra.

Mr. Hill has notes of six cases in which the glycerine of tannin would appear to have been of great service. In several, injections of zinc, lead, and alum have been employed without much benefit. The formula employed was the following: Glycerine of tannin, three ounces; olive oil and mucilage, of each one ounce.

ART. 192.—*Fission and Extroversion of the Bladder and Epispadias, with the Results of Eight Cases treated by Plastic Operations.*[1]

By JOHN WOOD, F.R.C.S., Examiner in Anatomy to the University of London, Assistant-Surgeon to King's College Hospital.

(*The Lancet*, February 20.)

The author commenced by stating that the frequency of this deplorable deformity was greater than was generally supposed. He had himself seen upwards of twenty cases. In its more usual form it was perfectly compatible with viability, and even longevity. One case is recorded by Flajani, of a person aged seventy, and by Quatrefages of two, aged forty-six and forty-nine, respectively. It is much less common in the female than in the male; the author had seen two cases in the female, and operated on one. Cases are recorded by Huxham, Oliver, Bonnett, Thiebault, and Ayres, of delivery of a child at full time in females suffering under the deformity.

In both sexes the ossa pubis are widely separated, and the symphysial surfaces can be felt projecting under the integuments on each side of the genital organs. In both, the hinder wall of the bladder is seen as a red, vascular, projecting tumor, often ulcerated, and discharging muco-purulent fluid and blood, and surrounded by a cicatrix, which above is blended with, and obscures the umbilical mark. In the male, the penis is usually completely epispadiac, with the urethra open along its entire length. The corpora cavernosa are stunted, and fail to cover the urethra above, and they are connected below by an imperfect corpus spongiosum, forming the lower part of the urethra. The glans penis is grooved above by the urethral gutter, but perfect underneath, and is provided with a frænum, and an abundant but split prepuce. The stunted penis is placed flat against the lower part of the bladder, usually covering by its root the papillary orifices of the ureters. The scrotum is perfect, and contains testes; and often a congenital oblique hernia, or a small ventral hernia, is also present. In the female, the clitoris is split, and the anterior commissure of the labia minora wanting, exposing more completely than in the male the orifices of the ureters, and laying open the urethra. The normal os uteri can be seen in the vaginal groove.

The author then reviewed the theories of the cause of the deformity—viz., that of Duncan and Bonn, who attributed it to the bursting of the fœtal bladder from over-accumulation of allantoic fluid; that of Velpeau and Phillips, who considered it to be caused by ulceration of the hypogastric region between the second and third months of intra-uterine life; and that of Vrolik and other teratologists, who explained it by an arrest of development similar to those producing harelip, fissio thoracis, and ectopia cordis. He considered that the latter view was undoubtedly the correct one, but was of the opinion that the arrest of development was itself owing to a process of morbid change resulting in adhesion of the front part of the allantoic mucous and vascular layers to the membranes of the ovum at the site of the future placenta, at about the end of the first month. He gave drawings of the fœtal allantoic formation at this period, and described varieties of the deformity illustrative of the period and extent of the arrest of development—from simple fissure of the urethra (epispadias), and of the urachus and abdominal wall simply (ectopia vesicæ), on the one hand, representing a later arrest of development; to those extreme cases presenting a common cloacal opening of the genito-urinary organs and rectum, with imperforate anus, on the other, which are the results of a morbid change and consequent arrest of development at a still earlier period than the cases which form the especial subject of the paper.

Mr. Wood next alluded to the efforts made by surgeons at various times—

[1] Read at a meeting of the Royal Medical and Chirurgical Society, held Tuesday, February 9.

viz., Dieffenbach, Langenbeck, and others in this country—to relieve by plastic operations this frightful deformity, in all instances with partial or complete failure. He briefly described Prof. Pancoast's case operated on in Philadelphia, and Dr. Ayres' in New York, attributing to the former the first adoption of the idea of turning flaps from the sides of the abdominal wall with the skin surface towards the exposed mucous membrane. Dr. Ayres' case was that of a female who had borne a full-grown child four months before, and was entirely successful after two operations. He also alluded to the operations performed by Mr. Holmes in this country. He then gave a detailed account of eight cases in which he had himself operated between the years 1863 and 1869. In seven of these he had been successful in providing a complete covering for the bladder. In the last two he also succeeded in covering the penis with a prepuce, completing the upper wall of the urethra, and forming a fair substitute for the meatus urinarius. In one case (the only female operated upon) an entire failure had resulted, in consequence of the extreme youth and violent crying of the patient.

Three methods of covering the bladder had been employed. The first was by two lateral flaps taken from the groin, with their bases toward the thigh, scrotum, and penis, and united by sutures in the median line, with their raw surfaces towards and touching the exposed mucous membrane of the bladder. After many operations, necessitated by partial failures of the plan, the bladder was at length completely covered in, with only one opening, placed at the root of the penis. The boy died afterwards of erysipelas of the head and face, and the parts operated on were shown in a preparation, the bladder being opened behind to show the union of the flaps within, and the formation of a pseudo-mucous membrane on the raw surface.

The next method consisted in the employment of one reversed lateral flap, in combination with a smaller reversed umbilical flap, both turned with their skin surfaces towards the bladder, and covered by another larger lateral flap, placed with its raw surface downward upon them. The reversed umbilical flap was adopted to obviate the great difficulty experienced in the earlier cases in closing up a fistulous opening which remained above the bladder. It cannot always be employed with safety, in consequence of the extreme tenuity of the abdominal parietes at this part in some of these cases. It was found better to attempt it at the time of the first operation than by a subsequent one, and to make it large enough to afford a firm hold by primary adhesion to the lateral flaps which cover it.

The third method employed consisted in the formation of a larger umbilical flap, turned with its skin surface upon the bladder, and big enough to cover its exposed mucous membrane as far down as the root of the penis. This was covered by two lateral flaps taken from the groin, with their bases towards the penis, scrotum, and thigh, and united in the median line over the umbilical or reversed one, with their raw surfaces in contact with it. By this means the author succeeded, in five cases, in covering by one operation the entire surface of the bladder.

In this step of the operation the chief features of the author's plan, as most successfully practised, are the use of the broad, reversed umbilical flap, to prevent the upper fistulous openings; and the arrangement of the lateral or groin flaps, with their bases turned towards the scrotum and thigh, so as to receive for their supply of blood the external pudic and superficial epigastric vessels from the common femoral uninjured, and so to prevent sloughing or shrinkage.

In the second step of his operation, as performed in the last two cases—viz., that of providing a preputial covering for the glans penis and an upper wall for the urethra, the author availed himself of the front part of the scrotum and the skin of the lower surface of the penis, which he raised from the deeper parts in the form of a bridge of skin, retained at both ends to its original connections, and lifted in the middle over and across the penis, like a saddle. This was placed with its raw surface in contact with that of a reversed fold of skin, turned over from the sides of the opening left by the first operation, the whole being held together by continued wire suture. The sides of the wound in the scrotum were then brought together vertically over the tunica vaginalis and testicles, the

hinder half of the bag of the scrotum being amply sufficient to cover the whole. This part of the operation proved entirely successful in the last two cases, which were the only ones in which the method has been tried.

It was stated by Pancoast that the hairs which afterwards grow on the reversed surface of the flap became gradually shed by the depilatory action of the urine upon them. In the author's two last cases, both adults, the process is certainly going on, but it is still necessary to remove some of the hairs as they grow by the use of a pair of forceps passed into the artificially formed meatus urinarius. This is, however, a process requiring only a little trouble and dexterity on the part of the patient himself, and to be repeated whenever the incrustation of the phosphates upon them causes uneasiness. A very dilute nitric-acid lotion aids in the process of cleansing. In future adult cases, the author proposes to use a depilatory upon the parts previous to operation. As the cicatrices contracted, the orifice of the artificial urethra became more tightened and braced up, and the transplanted dartos could be felt to clasp the finger vigorously when passed into the opening. Already the urine sometimes accumulates in the bladder, when the patient is lying down, in sufficient quantity to be expelled in a stream, on rising, to the distance of a few inches from the penis. In both cases no sinuses now remain. They now wear a silver-plated instrument connected with an India-rubber urinal, made by Mr. Matthews, of Portugal-street. It is closely fitted around the penis, not inclosing the scrotum, thereby removing the pain and annoyance from the sores and tenderness with the trickling urine caused upon the surface of the scrotum. During the night, when the patients lie in the recumbent position, very little urine escapes—not more than can be caught by a sponge placed under the penis; and in the daytime a much smaller and less conspicuous urinal can be worn than that which was necessary before the operation.

The last case operated on by the author—that of a man, aged thirty-five—was exhibited to the Fellows at the meeting. An India-rubber ring can now be placed round the artificial prepuce and the corona glandis, so as to retain the water entirely for a short time. The paper was illustrated by numerous casts, models, and drawings from the several patients in various stages of the operations.

The President, in cordially thanking Mr. Wood for his important contribution, said he had seen many failures, but none to succeed. He had never attempted the operation, not having the courage to face the antecedents of such an operation. Mr. Wood's success was a cause for general rejoicing.

Art. 193.—*Catarrhus Vesicæ.*

(*The Lancet*, January 2.)

This disagreeable chronic complaint is often very obstinate; it may therefore just be stated that M. Mallez has found the following solution injected *into the bladder* very efficacious: water, ten ounces; tincture of iodine, forty-five drops; iodide of potassium, fifteen grains. When the pain is very annoying, add fifteen grains of extract of belladonna to the above. He has also employed carbolic acid, nitrate of silver, and hyposulphite of soda, with advantage.

Art. 194.—*Urethrotomy.*

By Dr. Jüngken.

(*Deutsche Klinik*, No. 51, 1868; and *British Medical Journal*, March 27.)

Dr. Jüngken, in a long contribution on the pathology and treatment of stricture of the male urethra, states, that when the canal is completely closed, recourse should be had to the proceeding of urethrotomy recommended by Syme. This operation the author holds to be one of the most difficult that can be undertaken by the surgeon, as cases often occur in which the operator cannot distinguish the urethra contracted to a capillary fistulous passage from a

true fistula. The knife is frequently carried through a firm cicatricial mass, which is traversed by several old fistulous passages lying close together. Dr. Jüngken, in the performance, observes the two following precautions: 1. The bladder should not be emptied before the operation; because, when it becomes difficult to distinguish the urethra from a fistulous passage, assistance may be given by pressing with the hand above the symphysis pubis and over the bladder, so as to cause the urine to flow away, and thus to indicate its canal. A fine button-sound is then passed into the contracted urethra; and over this a fine hollow sound, upon which the passage is slit upwards and downwards. 2. The skin incision should be sufficiently extensive, so that a full view may be had of the exposed parts, and a clear idea obtained of their relative positions. In many instances, the diseased urethra has been found forced quite away from the normal position. Dr. Jüngken holds that the use of the catheter and of bougies cannot be dispensed with after this operation. The immediate introduction of a catheter is indicated after the operation, and the use of bougies is necessitated after cure during the whole of the patient's life.

Art. 195.—*On Vesical Absorption in the Healthy Subject.*[1]

By M. E. Ségalas.

(*Gazette Hebdomadaire*, No. 14, 1869.)

"In the year 1824, my father, in his researches on absorption, proved that the mucous membrane of the bladder did absorb an alcoholic extract of nux vomica. In 1862 I repeated the experiments of my father, and made out that rabbits, into whose bladders I introduced a solution of sulphate of strychnine, succumbed rapidly under the influence of this poison.

"M. Susine, in 1867, after having alluded to the negative result that had attended experiments made by M. Claude Bernard with curare upon the bladder of dogs, concluded from investigations made upon himself that the vesical epithelium was impermeable by certain substances.

"Fifty centigrammes of iodide of potash dissolved in sixty grammes of distilled water were injected into the bladder in two healthy men. In neither of these experiments, which I watched with great care during forty-eight hours, did the examination of the saliva indicate the absorption of the medicinal agent. When the same dose of iodide of potassium had been administered by the rectum, one readily made out its elimination by the saliva and urine. These new experiments, then, justify us in concluding that the bladder in the healthy man does not seem to absorb iodide of potassium."

Art. 196.—*Diagnosis of Chancre.*

By Berkeley Hill, M.B., F.R.C.S.

In his work on *Syphilis and Local Contagious Disorders*, Mr. Hill writes:—

"It is usually easy to decide whether a sore on the genitals is derived from a local contagious ulcer if attention be paid to the distinctions that will be immediately enumerated. It is true, there is sometimes a difficulty in deciding that syphilis has not been imbibed at the same time as the local irritant. This difficulty is impossible to solve in all cases if the source of the sore is uncertain, and if the period necessary for the incubation of syphilis has not elapsed when the examination is made. In practice, nevertheless, such instances are not common; in the great majority of venereal ulcers, a positive opinion can be given at once, and for the rest, a short period of observation suffices for deciding the question, by the speedy appearance of the changes peculiar to syphilis betraying the presence of that disease. The differences between the local chancre, and the primary manifestation of syphilis, are contrasted in the following parallel paragraphs. They are altered from those of one of Clerc's pupils, M. Blacheyre."

---

[1] Communicated to the Académie des Sciences.

DISTINCTIONS BETWEEN THE LOCAL ULCERS AND THE PRIMARY MANIFESTATIONS OF SYPHILIS.

Local Ulcer.	*Syphilis.*
1. *Incubation nil;* irritation is at once displayed by reddening and speedy ulceration of the point of contagion.	1. Incubation is always of some length, the average being twenty-four days.
2. Ulceration frequently begins by a pustule. Ulceration is an essential condition, and is always very active during the first few weeks.	2. The manifestation begins by a papule. Ulceration, if accidental irritation is absent, is never active. Superficial erosion is sometimes present as soon as induration begins, but even this is often delayed till the induration is far advanced, and may be altogether absent.
3. The virulent character of the ulceration gives the sore its tendency to enlarge, and its long duration, extending in mild cases six weeks, in severe ones much longer.	3. The indolent character of the ulceration, of which the duration is uncertain, and depends on the condition of the patient.
4. The *aspect of the ulcer is characteristic;* it is hollowed, the surface is spongy and undermined; the edges are sharply cut, and the discharge is opaque, yellow, and plentiful.	4. The *aspect of the papule is characteristic;* it is often not ulcerous, but simply eroded, or desquamating. When the surface is ulcerated, it is smooth, and covered with adherent scanty secretion. The edges are not undermined, but raised, sloping, or rounded.
5. The base of the sore is supple, unless thickened by inflammatory congestion; but this pseudo-induration disappears when the inflammation is subdued.	5. The base of the papule is of gristly hardness, quite independent of inflammatory action; is peculiar in character; very rarely absent in men, and generally present in women. It usually lasts several months before it disappears.
6. Multiplicity of the sore is the rule. This results from the consecutive inoculations of the parts around with the discharge of the original sore.	6. The papule is habitually solitary. When there are more than one the papules are all of one age.
7. The lymphatic glands remain either unaffected, or become acutely inflamed, and form abscess or bubo.	7. The lymphatic glands are almost invariably affected by slow, irregular enlargement of the whole group, at a certain length of time after infection, but suppuration is infrequent, and when present is the consequence of ordinary irritation.
8. The matter of these buboes is often inoculable on the bearer. If so, it is pathognomonic of chancre; it also converts the bubo into a chancre.	8. When abscess forms around the enlarged lymphatic glands, it is not inoculable on the bearer.
9. However long the chancre lasts, it remains a local disease.	9. Between two and three months after contagion, erythematous and papular eruptions appear on the surface of the body.
10. Phagedena and ulceration of inflammatory kind are frequent complications.	10. Any inflammation or extension by ulceration is rare.
11. Pain in the sore is usully sharp, often severe.	11. Absence of pain.
12. Seldom met with away from neighborhood of the genital organs.	12. Tolerably frequently met with on parts away from the genitals.
13. The source a similar ulcer.	13. The source is most usually an ulcerating papule of a syphilitic eruption.
14. Antecedent to the disorder, the patient may or may not have had syphilis, and may have had similar ulcers several times before.	14. Antecedent to this, the patient has not had syphilis, or such a hard-based ulcer.

Local Ulcer.	*Syphilis.*
15. The secretion of the sore is inoculable on the bearer until cicatrization is advanced.	15. The secretion is very rarely inoculable on its bearer, and so only when its surface is irritated into acute suppuration.
16. The discharge is also inoculable on animals.	16. The discharge is not inoculable on animals.
17. It may be many times repeated in each individual.	17. It is only once developed in each individual. Exceptions to this are too rare to invalidate the rule.

ART. 197.— *On Prolonged Extension, and on Pain in Coxalgia.*

By Dr. HENNEQUIN.

(*Archives Générales de Médecine*, No. 2, 1869.)

1. Pain is the sole obstacle to prolonged extension in cases of coxalgia.

2. The intensity of the pain is in direct relation to the force of traction and the sensibility of the region inversely to the extent of the surface which supports the extension.

Dr. Hennequin has sought to carry out his principles by means which consist in—1st, the position to be given to the lower limb; 2dly, the choice and the number of the points of application of extension and counter-extension; 3dly, the arrangement of the apparatus. He has demonstrated that the thigh should rest in a position of moderate adduction on a horizontal plane, the trunk being somewhat elevated; to place the lower limb in a double inclined plane is to put it in a position which is contrary to the laws of physics and damaging to the final result.

Arranging according to their value the positions to give to a lower limb subjected to prolonged extension, Dr. Hennequin has placed in the first rank the position *en équerre;* in the second rank the rectilinear position; and thirdly, the position in the double inclined plane, which last should not be employed unless the surgeon be forced. Unfortunately, in coxalgia, the faulty positions of the limb do not allow one always to select one position rather than another.

Passing in review the regions which may receive extension, and the means employed for practising it, M. Hennequin names first the posterior surface of the calf, next the inferior extremity of the femur, next the cutaneous surface, and finally, the malleolar and calcaneal regions. With regard to the means of extension, the most efficacious seem to be the padded band made with a hollow corresponding to the bloodvessels of the popliteal region, the laced bracelet, and bands of diachylon with the stirrup.

The regions which may, simultaneously or alternately, support the counter-extension are always, according to their value, the tuberosity of the ischium, the external iliac fossa, or the horizontal branch of the pubis.

A description is given of an extending apparatus which is capable of making extension in all positions of the limb, correcting at the same time whatever pelvic deviations there may be in the following manner: If the pelvis be inclined laterally towards the sound limb, all the counter-extension is thrown upon the external iliac fossa and the pubic branch of the depressed side; if the pelvis be inclined forward, the counter-extension is applied simultaneously to the two branches of the pubis; if it be inclined backwards, to a single ischiatic tuberosity. The most favorable time for the application of the apparatus in cases of fracture of the femur is from the tenth to the twentieth day after the accident; in cases of coxalgia, from the commencement of the period of muscular spasm.

The force of the traction should be proportionate to the amount of development of the muscular tissue. The best sign of its efficacy is the pain which is produced in the track of the articular ligaments which are concerned in transmitting it to the osseous levers when the powers of the muscles has been overcome.

On the Pains in Coxalgia.—The pains in coxalgia are of two kinds: the first depends on inflammatory processes, and is seated about the morbid lesions; the other occupies more or less remote regions, and resides in the fibrous tissues.

Muscular action, and consequently the faulty position of the limb, is the cause of the latter; inflammation gives rise to the first.

The theories which explain the radiation of the pain from the seat of the disease to remote regions by the medullary canal of the bone, or by nerve filaments, do not seem to Dr. Hennequin to be admissible.

ART. 198.—*A Safe and Effectual Operation for the Radical Cure of Varicocele.*

By PAUL F. EVE, M.D.

(*American Journal of the Medical Sciences*, January.)

The operation is thus performed: The patient being etherized, the scrotum over the left testicle, previously denuded of hair up to the external abdominal ring, is so secured by the thumb and fingers of the left hand, or, still better, by Ricord's fenestrated forceps for phymosis, but double their length in the blades, that about four square inches of it is excised by a knife, and without opening the tunica vaginalis. Before detaching the forceps, *pins* are to be inserted through the integuments near the cut edges; around these the figure-of-8 sutures are subsequently applied. Beginning with these at the most pendent part of the scrotum, and ascending towards the cord, when the latter is reached, the veins are carefully examined, if found much enlarged, they are to be separated from the vas deferens and spermatic artery, and an *animal* ligature tied around them just sufficiently tight to arrest the circulation. The entire wound is then closed accurately by the twisted suture. Two weeks generally complete the treatment; they are often up, however, in a week. The patients are to be carefully prepared by diet; the bowels are to be opened the day before the operation. The latter is to be immediately followed by cold water; or by simple dressings and subsequently free ablutions to the parts. Any inflammatory action is to be at once checked. By the fourth day from six to twelve of the pins are to be withdrawn, and all of them by the fifth or sixth. The ligature to the veins Dr. E. has never known to produce uneasiness or any evil consequences. Pins are preferred to needles, from the slowness of their oxidation. Dr. E. recommends the operation described, because by it alone are the two principal indications for surgical interference in varicocele accomplished—the removal of redundant scrotum, and the destruction of the enlarged veins. By it the parts are fully exposed to view, and the artery and vas deferens certainly avoided. It cannot fail to produce a radical cure. It is safe, simple, and certain. There is no danger from phlebitis, the veins not being wounded but simply closed, and by a ligature which is entirely dissolved in a few days. The entire wound healing mostly by the first intention.

ART. 199.—*On Spermatocele.*

By Dr. F. STENDENER.

(*Archiv für klinische Chirurgie*, Band x. Heft 1, 1869; *Gazette Hebdomadaire*, No. 15, 1869.)

The origin of cysts containing spermatozoa is variable, and at the present time all observed spermatoceles may be ranged in three groups, the existence of which has been confirmed by anatomical researches. In the first place, spermatic cysts are developed at the level of the epididymis without the tunica vaginalis. To this group belong the majority of cases of spermatocele. These cysts are sometimes multiple (Curling, Syme, Uhde). In very exceptional cases they may attain a considerable size. Curling has operated upon one containing thirty-two ounces of fluid, and Rothe has reported a case in which the cyst

contained two pints. In the second place, spermatic cysts may be developed over the epididymis within the tunica vaginalis. These cysts are very rare. They have been described by Gosselin, Lewin, Curling. In the third place, we have hydrocele, properly called, containing spermatozoa. Of this form of spermatocele we possess but two pathological and anatomical researches—viz., those by Paget and Curling—to establish its existence.

Dr. Stendener has had opportunities for observing on the living subject, and subsequently for making a post-mortem examination, a fourth form of spermatocele which could not be included within any of the preceding three groups. This fourth group contains cysts formed by the glandular canaliculi of the testicle itself.

The following were the characters observed during life: The right half of the scrotum was swollen, and presented a transparent elastic tumor, reaching as far as the inguinal ring; the testicle could be easily felt below the tumor; the tunica vaginalis did not contain fluid. Dr. Blasius diagnosed an encysted hydrocele of the spermatic cord, and spoke of the possible presence of spermatozoa. A puncture gave exit to 350 cubic centimetres of a fluid containing an enormous quantity of moving spermatozoa. Five months later the patient died from cancer of the liver, the cyst in the meantime had returned.

At the autopsy it was made out that the testicle was sharply separated from the tumor. The tunica vaginalis included a small quantity of serous fluid which did not contain any traces of spermatozoa. The cyst contained 135 cubic centimetres of a thick fluid of a soapy appearance, with a density of 1011, and presenting under the microscope a considerable quantity of spermatozoa. Chemical analysis demonstrated after filtration a large proportion of albumen and a small quantity of glycose.

The cyst was entirely separated from the vas deferens, which, with the vessels, was situated at the posterior part of the cyst. This covered the head of the epididymis in such a manner that this organ was found to be placed between the parietal layer of the tunica vaginalis and the wall of the cyst. Near the head of the epididymis and below the cyst was another small lenticular cyst furnished with cylindrical epithelium presenting vibratile cilia, and formed without doubt at the expense of the remains of Muller's body. The hydatid cyst of Morgagni was somewhat flattened, but readily discernible. The spermatic cyst could be easily separated from the epididymis and tunica vaginalis, but was adherent to the testicle over a portion three millimetres in length and fifteen in breadth, near the upper extremity of the rete testis. The cystic membrane was continuous at this part with the tunica albuginea. A median section across the testicle and the cyst showed that a great number of the canals of the testicle were united to the cyst, and apparently opened into its interior. A fine hair, however, could not be passed through the orifices of these canals.

In this case, then, one had to deal with a cyst formed by the retention of products of secretion in a part of the rete testis, due to obliteration of the communication between the canals of the rete testis and the excretory tubes. Virchow has already described the formation of cysts by obliteration of the seminiferous canals, and although the conditions of formation are not known, this obliteration may be admitted to explain the formation of cysts in the vesicle of Morgagni, those which are consecutive to the obliteration of the vasa deferentiæ and to obliteration of the canaliculi of the epididymis.

Art. 200.—*Recent Experience in Ovariotomy.*

By T. Spencer Wells, F.R.C.S., Surgeon to the Queen's Household.

(*Medical Times and Gazette*, November 28, 1868.)

Since last October Mr. Wells has completed the operation of ovariotomy in the Samaritan Hospital in thirty-six cases, besides one case in which he performed the operation successfully for the second time on the same patient. Of the thirty-six women, thirty-one recovered and five died. And it is a remarkable fact, Mr. Wells writes, that in *every case* in which the pedicle was long enough

to enable him to use the clamp the patient recovered. There were thirty of these cases—thirty clamp cases in one year without a single death. In two cases he used the cautery. One of the patients recovered, and one died. In four cases he tied the pedicle, and returned it into the cavity of the abdomen after cutting off the ends of the ligature. All these four patients died. Two of them must have died, he thinks, in whatever manner the pedicle had been treated. They were almost hopeless cases, and the operation was done as a forlorn hope. In one case the patient was sinking fast from septicæmia, a cyst filled with fetid fluid and poisonous gas having been washed out repeatedly, but ineffectually, with carbolic acid, and it was at last removed with only the very faintest hope of saving life. In the other case, extensive pelvic adhesions and disease of both ovaries had been pretty accurately made out, and had led to repeated tappings rather than ovariotomy. But at length, when tappings became of no avail, the cysts were removed, with some slight hope but with far greater apprehension. A clamp could not be used in either case. The pedicles were too short. The cautery might have been used; but the pedicles were of the kind where the cautery is often ineffectual in stopping bleeding—broad, thin, membranous attachments, with large vessels. In such cases the ligature succeeds well in stopping bleeding; but whether the ends are left hanging out through the opening in the abdominal wall, or are cut off short and returned with the pedicle, the results in Mr. Wells's hands have been almost equally unsatisfactory.

Mr. Wells states that he has often been asked here, What becomes of a ligature and of the tissues strangulated by the ligature when closed up in the peritoneal cavity? And he has from time to time given his reasons for believing that ligatures of fine pure silk are dissolved or disintegrated, and cannot be found after a few weeks. He has also shown that a pedicle secured by a silk ligature may be found some days afterwards either (1) surrounded by coils of adhering intestine, or (2) as the centre of a purulent cavity, or (3) apparently very little altered by the ligature, or else (4) absolutely dead or gangrenous. All these different conditions Mr. Wells has actually seen, accompanied by more or less evidence of peritonitis, and depending more, he believes, on the general health of the patient and the condition of her blood than upon any little difference in the material, or thickness of the ligature, or the mode of its application.

In speaking of the changes which foreign bodies themselves undergo when left in the peritoneal cavity, Mr. Wells says: Ligatures, either of silk or hemp, up to about the twenty-first day scarcely show any change, except some softening of the hemp. "Between the particular fibres which compose the ligature thread a number of young cells insinuate themselves, separating the threads from each other in some places in a remarkable manner, and evidently penetrating from neighboring parts. After a longer time the fibres are in this manner completely separated from each other, the knots loosened, the threads totally unravelled. Where a ligature had cut through, in several cases its track was marked by the remnants of single fibres."

Then as to the changes produced by the ligature in and about the parts where it is applied. The Breslau professors, Dr. Spiegelberg and Dr. Waldeyer, found the ligatures either "(1) closely encapsuled by newly formed cellular tissue; or (2) free in the peritoneal cavity, having slipped off from the tied parts; or (3) free, as if swimming in a small cystic cavity of the stump."

In one case, where a ligature had completely slipped off from the part which it had surrounded, and had been free in the peritoneal cavity, it had become firmly connected with a neighboring coil of intestine by means of young cells springing up from the serous membrane which had penetrated between the fibres of the thread, so that there was almost an organic union between the surface of the intestine and the knot of the ligature.

Where a ligature had to cut through a thick substance—as the body of the uterus or one of its horns—the track of the ligature could be distinctly seen on section, with help from a strong lens, as a fine gray line. It began as a slight indentation of the peritoneal coat corresponding to the place where the ligature first caught. As early as the fifth day this indentation had become so shallow as to be in no proportion to the deeply grooved ring round the tissues

powerfully constricted by the ligature. Under a higher magnifying power the delicate line is seen to be formed by a streak of new cells, which mark the track of the ligature; but no trace can be seen of mortified particles of tissue. "It appears, therefore, that a ligature divides tissues in a very gentle manner, as if the tissue elements become loosened and separated before it while new cells are formed, and the gap behind it closes, so that the divided surface is scarcely ever exposed, at least within the peritoneal cavity. The first occurrence after the application of a ligature is evidently the union of the two borders of the ring cut by the ligature. In this way the thread is soon shut off from communication with surrounding parts, and then lies completely shut up in a circular canal. We have seen this very clearly in two post-mortem examinations made three days after ovariotomy. There were already abundant groups of new tissue sprouting up from the neighborhood over the ligatures, which had cut deeply into the pedicle, and almost completely covering it. In the new granulation tissue numerous bloodvessels can be discovered very early, so that the transition to permanent tissue is very soon effected."

The authors conclude from their experiments that ligatures inclosed in the peritoneal cavity do not lead to any evidence of acute local peritonitis, and, so far as the tissues of the uterus and mesometrium are concerned, can hardly be regarded as foreign bodies. They nowhere induce processes of mortification in these tissues, but, on the contrary, are inclosed and encapsuled on every side by them. In dogs as soon as the eighth day.

We now come (Mr. Wells continues) to some very interesting observations, well worthy of careful considerations, upon the changes in the surface of the divided parts of the uterus. After a few days—from four to six—no free divided surface could be seen. Surrounding portions of the mesometrium, bladder, or coils of intestine rapidly adhered to it. In one case, after nine days, numerous bloodvessels were observed running between the coats of the bladder and the uterus. In another case, after twenty-one days, the spot from whence an ovary had been removed could not be detected, so perfectly smooth and free from any cicatrix was the posterior abdominal wall where the ovary had been. In another case, six days after operation, the cut end of the left horn of the uterus was found soldered between two coils of intestine. The mesometrium was drawn in between them and united with their coats and mesentery. The divided horn of the uterus itself was also partly adherent to the intestine.

The most complete and extensive adhesions of the uterus were always with its own mesometrium. This was always observed, even when other organs were also adherent. The cut surface of the uterus falls upon the neighboring mesometrium; new cells spring up from the latter and unite with the granulations from the uterine surface. Afterwards retraction of the new formed granulation tissue draws the stump of the uterus more and more within the folds of the mesometrium until it is completely surrounded. A very free vascular communication has been observed between their united surfaces. The authors never observed any divided surface either free or with shreds of gangrenous tissue about it.

Similar conditions were observed in the two ovariotomy cases just alluded to. The divided surfaces of both pedicles were on the third day perfectly fresh, without any gangrenous appearance. In the first case, where both ovaries were removed, both pedicles were free and directed upwards; in the second case the divided surface of the pedicle was in contact with the peritoneal covering of the psoas magnus, with which it was connected by new cells, and without any trace of gangrene.

Passing on to the consideration of the effects produced by the ligature on the part inclosed by it—the stump—the authors say that when a bloodvessel is tied the strangulated end of the vessel dies and is thrown off with the ligature. Hence the rule not to tie a vessel far from its cut end, but as near as it can be done with certainty to stop bleeding. So that when it was proposed to tie a pedicle of an ovarian tumor and leave ligature and stump in the peritoneal cavity, it was feared that there would be great danger from the death of the strangulated stump. At the same time, if the stump were left very short

by cutting away the tumor close to the ligature, it was feared that the ligature might slip off, and internal bleeding take place. The authors consider that their experiments prove these fears to be exaggerated—at least they establish the fact that in dogs there is no gangrenous change in the stump, nor any trace of mortification either on the divided surfaces or on the parts behind the ligature. In the case where the divided end of the uterus adhered between two coils of intestine, the stump had contracted to a nodule hardly as large as a pea, consisting of a part of the uterine wall with its mucous membrane everted, and containing all its structural elements, including the utricular glands, completely unaltered. The openings of these glands had thus been brought free in the peritoneal cavity.

Larger stumps were enveloped in the folds of the mesometrium. Their canals were almost always pervious, and in some had become dilated into a sort of cyst with muco-purulent contents. Sometimes the ligature knots lay within these cysts, the texture of the walls remaining almost unaltered, and the mucus- and pus-corpuscles showing very little retrograde metamorphosis. In most cases there remained a narrow communicating opening between the cavity in the stump and the rest of the uterus. In two cases the cavity of the stump was obliterated and filled with young granulation tissue, in which no epithelium of the uterine cavity could be found, although there were remnants of utricular glands. All this proves that the textural alterations take place by simple retrograde metamorphosis of cells which become permanently organized tissue, but without the occurrence of any violent inflammatory or gangrenous changes.

The authors have not much to say about the changes in the surfaces cauterized. Only three animals were subjected to experiment, and these were killed on the sixth, fourteenth, and twenty-sixth days after the application of the cautery. On the sixth day the cauterized surface of the central part of the uterus appeared quite fresh, beset with numerous small brown-black particles of animal charcoal, not softened, but firm and hard. At a depth of two to three millimetres, the uterine tissue was colored reddish, as if from imbibition of the coloring matter of blood. The uterine cavity was shut off from the peritoneal cavity, but rather by the firm agglutination of the tissues of the cauterized surface than by granulations, none of which could yet be seen. The microscope showed the tissue of the cauterized part to be unaltered, the vessels dilated, and many of them filled with clot. The coloring appeared to be due to blood-corpuscles and diffused coloring matter of the blood. All these changes, however, were circumscribed, and might easily have gone on to complete restoration. Much more extensive alterations were found on the two cauterized surfaces of the uterine horns. These were so completely surrounded by folds of the mesometrium that they could not be seen until these folds had been dissected off. At only one spot of the left horn near the cauterized surface, an opening was found as large as a pin's head, which opened into the dilated cavity of the horn. About two centimetres distant from the cauterized surface, the mucous membrane and the muscular tissue of the uterus were softened and gangrenous. Shreds of mucous membrane lay in the cavity, the walls of which were formed merely by serous membrane and the adherent mesometrium. The vessels, even to the smallest, were completely blocked up by clot. The gangrenous process about the cauterized parts appeared to be due to the extension of clot in the vessels; but all was encapsuled by the mesometrium. No pus was found in the peritoneal cavity, not even near the small opening which communicated with the uterine cavity. A successful result might therefore have been expected. It was obtained in the two following cases.

After fourteen days the cauterized surfaces of the central extremity of the uterus, as well as those of both horns, were all completely encapsuled by mesometrial folds. The central extremity of the uterus was firmly united to the posterior wall of the bladder by perfectly organized connective tissue. The cauterized surface of the right horn was firmly united to a coil of small intestine.

On the twenty-second day repair was found to be most complete. The cauterized surface of the body of the uterus was bound to the posterior wall of the bladder by a fibrous band. The cauterized surface of the mesometrium was everywhere smooth; nothing could be seen to show that a piece of it had been

separated by the cautery from the horns of the uterus. The cauterized spots on the uterus were smoothly encapsuled, and the only traces of the cautery were minute remnants of animal charcoal. These fragments of charcoal lay in a firm fibrillated connective tissue which closed the uterine cavity. The epithelium of the uterus and the other elements of the uterine wall were perfectly preserved.

Mr. Wells states that he is indebted to Dr. Maslowsky, of St. Petersburg, for two papers which he kindly sent him, one from the ninth volume of Langenbeck's *Archiv*, and the other from the *Berliner klinische Wochenschrift*, which contain observations corroborative of those by Spiegelberg and Waldeyer. In one successful case Dr. Maslowsky removed both ovaries, treating the right pedicle by the cautery and the left by ligature, returning both into the peritoneal cavity. And he made twelve experiments on rabbits, dogs, and cats, removing the horns of the uterus and the omentum, sometimes by the galvanic cautery and sometimes by red-hot irons, in order to study the process of capsulation of the eschar after its inclosure within the peritoneal cavity, and the share which the white blood-corpuscles have in this process. As these corpuscles take up vermilion from the blood, Dr. Maslowsky injected vermilion into the jugular vein at different periods after his experiments, in order to trace the corpuscles in any product of inflammation.

Microscopic examinations of the animals at different periods, from fifteen hours to seventy days after operation, proved that the eschar on the uterine horns and on the omentum is first covered by effused fibrine, and is afterwards united by membrane with surrounding organs. "The fibrinous exudation contains many round cells charged with vermilion, and some nucleoli free from vermilion. It soon loses its fine fibrillar structure, and is changed into a finely granular mass. The round cells with vermilion assume an oval form, and then spindle-shaped cells are also seen without vermilion. Some cells contain black nucleoli not composed of vermilion; afterwards these may be seen between the fibres. As the capsulation becomes more complete, the oval cells which contain vermilion become long and then spindle-shaped. And Mr. Wells has sometimes observed that the ends of two spindle-shaped cells coalesce, and at once form a fibre. In the new-formed membrane, capillaries are seen as soon as the fourth or fifth day, and on the tenth or twelfth the vessels may be easily injected. Mr. Wells has also seen in the membrane newly formed elastic fibres and scaly epithelium, both free from vermilion. The false membranes have a similar structure. It is therefore an undeniable fact that the white blood-corpuscles participate in the formation of the new membrane which covers the eschar and unites it with surrounding organs."

The eschar made by the galvanic cautery consists of animal charcoal and blood pigment. The particles of animal charcoal are partly lying in the eschar, and are partly inclosed in surrounding connective tissue. When red-hot iron is used, the eschar also contains particles of oxide of iron, some of which are also found inclosed by the elements of connective tissue. It is proved that the black specks are really iron by the ordinary chemical reactions. The mucous membrane of the uterus near the cauterized part was suppurating, and the pus-corpuscles contained vermilion.

Dr. Maslowsky also made a number of observations on the mesentery and mesometrium of frogs and rabbits, in order to ascertain the precise changes which the vessels themselves, and the blood circulating in them, undergo after the application of the cautery. From twelve to twenty-four hours before examination, vermilion was injected into the jugular vein. The frogs were immobilized by woorara, the rabbits narcotized by opium. The results of the microscopical observations are as follows:—

"*a.* The end of closed arteries is contracted immediately at the cauterized part, but at some distance from it the artery is dilated. The canal of the veins is affected exactly in the reverse manner.

"*b.* The blood in the vessels contains black particles from the heated iron, and separates itself distinctly into a layer of white blood-corpuscles, which are near the cauterized spot, and a layer of red blood-corpuscles, which are further away.

"*c.* In the closed arteries after two days the movement of the column of

blood is maintained. A part of the blood, with the black particles of the cauterized artery mixed in it, reaches back towards the trunk of the vessel. The movement of the blood in cauterized veins is only kept up for a very short time. There is complete stagnation, not only in the cauterized vein itself, but it extends further up to the junction with larger veins.

"*d.* The black particles are taken up by the white blood-corpuscles. This can be seen most distinctly in the vessels where stagnation of the blood is not complete.

"*e.* The migration of white blood-corpuscles, partly containing vermilion and partly black particles, begins twenty, thirty, or sixty minutes after cauterization. They are first seen in the veins into which the cauterized vein opens; afterwards in the veins near the cauterized part. Very few white corpuscles migrate from the arteries. In frogs, as the mesentery is very broad and transparent, this migration can be observed for three days; in rabbits only for six or eight hours.

"Similar changes in the vessels and migration of white blood-corpuscles I have also observed after ligature of mesenteric vessels, and after burning away part of the tongue in the frog. When entire portions of mesentery are burnt away, the same alterations occur, but to a much greater distance.

"A hot iron shaped like a bird's bill, so as to enter for some distance into a vessel, was used in three cases, and I observed a migration of white blood-corpuscles charged with black particles, which chemical reaction proved to consist of oxide of iron.

"It is therefore certain that particles of iron from the iron cautery may be transmitted with the white blood-corpuscles into different tissues."

These recent observations are, Mr. Wells thinks, of sufficient importance to justify him in having brought them before the profession of such length. But he cannot feel encouraged by them, as the authors have been encouraged to look upon either the cautery or the ligature, or any *intra*-peritoneal method of dealing with the pedicle of an ovarian tumor, as equal, far less as superior, to the clamp or to any other *extra*-peritoneal method.

Art. 201.—*A Third Series of* 100 *Cases of Ovariotomy, with Remarks on Tapping Ovarian Cysts.*[1]

By T. Spencer Wells, F.R.C.S., Surgeon-in-Ordinary to her Majesty's Household, and Surgeon to the Samaritan Hospital.

(*The Lancet*, May 15.)

The author has arranged in a table all the cases in which he has completed the operation of ovariotomy, from the 200th case included in previous papers to the 300th. In other tables he gives particulars of all his incomplete and exploratory operations. He finds that the mortality lessens as experience increases. Of the first 100 cases 34 died, and 66 recovered. Of the second 100, 28 died, and 72 recovered. But of this third series of 101 cases, only 23 died, and 77 recovered.

The author has endeavored to ascertain what influence tapping ovarian cysts may have upon the mortality of subsequent ovariotomy, and he has arranged in a table all his cases where tapping had never been done, and those in which it had been done from once to sixteen times. The general mortality of the 300 cases were 28.33 per cent. Nearly one-half of the patients, or 135, had never been tapped. In them the mortality was 27.40 per cent.—not one per cent. less than the average mortality. Rather more than one-fourth of the patients, or 78, had been tapped once. In them the mortality was 25.64 per cent. There were 19 who had been tapped three times, and the mortality was 26.32 per cent. Of the 36 who were tapped twice the mortality was exactly the same as that of the group of cases tapped from four to sixteen times—namely, 33.33 per cent.

---

[1] Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, April 27.

The author is led by these facts, and by other considerations discussed in the paper, to the following conclusions:—

1. That one or many tappings do not considerably increase the mortality of ovariotomy.

2. That tapping may often be a useful prelude to ovariotomy, either by giving time for the general health to improve, or by lessening shock when the fluid is removed a few days or hours before removing the more solid part of an ovarian tumor; and

3. That when the syphon-trocar is used in such a manner as to prevent escape of ovarian fluid into the peritoneal cavity, and of entrance of air into the cyst, the danger of tapping is very small.

Dr. West agreed with Mr. Wells as to tapping being of service, especially as a preliminary operation, which might satisfy the surgeon, the patient, and her friends. In most cases the patient cannot be said to die of the tapping. We were apt to be dazzled by the success of ovariotomy. He would not speak so were it not necessary for him to, as it were, recant his former opinions. He could therefore with greater grace advocate the use of the minor operation. He would ask if any one now used iodine after tapping?

Mr. Spencer Wells, in reply to Dr. West, said that he had lately conversed with M. Nélaton and M. Boinet, who had both large experience in the treatment of ovarian cysts by iodine injections, and he found that they had both arrived at the same conclusion as his own experience of seven cases would lead to. Of his own seven cases, only one patient was alive who had not since undergone ovariotomy. This one was still in tolerable comfort nearly ten years after the injection; but a rather large cyst could still be felt. If a cyst was unilocular, with thin walls and limpid contents, then, after tapping and injecting iodine, a radical cure occasionally followed. But it was very doubtful whether iodine had much or anything to do with the cure, because tapping alone, without the use of iodine, in this form of cyst was also occasionally completely successful. No more fluid was secreted, the cyst collapsed, its walls probably coalesced, and after a time no trace of it could be detected by the most careful examination. When the contents of a cyst are viscid, iodine is quite useless. In such cysts, and in multilocular cysts generally, injections of iodine should be restricted to cases where for some reason ovariotomy cannot be performed, but where a cure may be hoped for after suppuration and drainage. Here washing out the cavity, once or twice a day, or oftener, with plenty of iodine in solution, becomes very useful, by deodorizing the offensive secretions, and probably by preventing absorption of putrid fluid and blood-poisoning.

Art. 202.—*Cases of Ovariotomy.*

By Thomas Keith, F.R.C.S.E.

(*Edinburgh Medical Journal*, October.)

The three following cases are placed on record by Mr. Keith:—

"Case LXI.—*Solid Malignant Tumor of Ovary with Ascites. Ovariotomy. Recovery.*—Mrs. B., forty-three years of age, expected her fourth confinement towards the end of August, 1867. The catamenia had been regular up to the preceding November, and with the exception of severe attacks of pain in the right side, and more than usual vomiting, there was nothing to excite suspicion that there was anything different from her former pregnancies. Getting alarmed after she had passed her expected term nearly two months, and finding herself becoming rapidly thin and losing strength, she consulted Dr. Espie, of Falkirk, who detected an ovarian tumor, and sent her to Dr. Duncan, with whom I saw her.

"She was a tall, gaunt, pallid, emaciated woman, of unhealthy aspect. The abdomen was filled by a hard, fairly movable tumor surrounded by ascitic fluid. The upper margin of the tumor was rather ill defined, and there was a groove or depression in it, over which there was generally a coarse crepitus or gurgling. The uterus was central and movable, but the slightest movement of the tumor—even the very laying of the fingers on it—was communicated to the cervix. Indeed, from physical

examination alone, it could not have been diagnosed from a fibroid outgrowth from the uterus. No relief could be obtained by drawing off the ascitic fluid, and the case was one for ovariotomy or nothing. Ovariotomy was performed on the 2d of November. Dr. Epsie was present from Falkirk. At first the anæsthesia was very quiet, but the supply of ether became exhausted—for I did not expect a long operation—and chloroform alone was given during the last hour, when vomiting became very severe. The incision extended from three inches above the umbilicus. A dark vascular tumor was exposed, quite unlike anything I had yet met with. After separating some firm anterior adhesion, and allowing the ascitic fluid to escape, it was found, on attempting to turn out the tumor entire, that the transverse colon lay imbedded in it. On trying to separate this, the upper part of the tumor broke away, and as the mass was then turned out, some extensive posterior adhesions in the pelvis and right iliac fossa gave way. The pedicle was secured by a clamp. The adherent colon, with its omentum and mesentery, was then freed by the fingers and scissors from the portion of tumor which was left. Many vessels were twisted, and besides, at least upwards of thirty bleeding points were secured by ligatures, the ends being cut off short. Some bleeding points in the intestine could not be secured without including portions of the muscular coat in the ligature. The bleeding was unusually free—especially in the pelvis below the bifurcation of the aorta, where a large piece of pelvic peritoneum had come away on the tumor; here it was necessary to tie large pieces of oozing cellular tissue, some of them as large as the point of the finger. There was much chronic peritonitis, and an unusual amount of sponging and handling of the intestines was necessary. This was unavoidable, from the oozing being again and again set up during the chloroform vomiting. The wound was finally closed by twelve deep silk sutures; and fearing lest the vomiting might set up hemorrhage when the patient was put to bed—as happened in one of my former cases—a glass tube was placed above the clamp, down behind the uterus, to give exit to any oozing. The left ovary was natural. The operation lasted upwards of two hours, and when the patient was put to bed she was pulseless, and looked as if she would die.

"The tumor was sent to Dr. Sanders, who pronounced it malignant both to the naked eye and on microscopic examination.

"The recovery in this case was for long doubtful. She was very feeble for many days, with a distressing feeling of giddiness and faintness. Vomiting was severe for the first thirty-six hours, and it continued at intervals for four days, when flatus passed downwards. The glass tube was removed on the seventh day, the opening closing at once on its removal. At least a pint and a half of dark red serum escaped through it. It was kept covered with lint soaked in carbolic oil, a very fine drainage tube being placed inside forming a syphon through which the serum trickled into a little dish at the patient's side.

"On the seventh day she began to suffer from colicky pains and great distension. This increased, in spite of everything, and towards the end of the second week, the meteorism was like to prove fatal. Faradization and long-continued doses of strychnine were tried in vain. Relief was only obtained by distending the colon by enemata of hot water. These generally brought away much flatus, and had to be repeated often every few hours. On the seventeenth day, a boggy swelling, which had formed behind the uterus, was punctured by a trocar, but it only contained fluid blood. During the third week the distension gradually subsided, and on the twenty-first day she was up for the first time. At the end of four weeks all swelling in Douglas's space had disappeared. The pulse never at any time rose above 120. The temperature was not taken, for the least unnecessary movement for a long time brought on sickness. The wound healed without discharging a drop of matter, and, notwithstanding the great distension, a more perfect linear cicatrix was never seen. About the time when she first got out of bed, it was observed that two deep sutures had escaped notice, and they were allowed to remain for experiment. Six weeks afterwards I saw them harmless and quite dry. When seen six months after operation, this patient had such a look of health that Dr. Duncan, myself, and the nurse who attended her, mistook her for a robust sister who had been with her during her illness. Her after history will be carefully watched. That the cancerous affection will return somewhere, I fear there can be little doubt.

"Case LXII.—*Multilocular Ovarian Tumor. Ovariotomy. Recovery.*—On the 11th of July, 1867, I saw, with Dr. Carmichael, a married lady, fifty-five years of age, from the west of Ireland. At the age of forty-two, the catamenia suddenly ceased, and since then her health had been indifferent, chiefly from attacks of chronic

diarrhœa. The tumor was of slow growth, and had been felt above the pubes for at least two years. All along she had had much pain in the pelvis; latterly this had been very severe, and locomotion was ill borne. Her general condition appeared good: she was fat, and had not the look of one suffering from ovarian disease.

"The tumor reached to a little above the umbilicus. The upper part fluctuated; the lower two-thirds were irregular and unusually hard. It was quite immovable. The cervix uteri could just be felt far back at the promonotory of the sacrum. The uterus itself seemed to be drawn up behind the tumor, and the sound passes nearly five inches. The pelvis, between the uterus and pubes, was occupied by a hard irregular tumor, quite fixed.

"After several examinations, the impression left upon me was, that the tumor had more the characters of a fibro-cystic tumor of the uterus than of an ovarian tumor. As she quite dreaded the return journey to Ireland, and as there were no urgent symptoms, and the tumor not large, it was arranged that she should remain for some months in the neighborhood of town. The tumor rapidly increased, and she suffered so much from pain and distension that tapping became necessary in September. Much relief followed. The fluid, of which there was nearly 20 lbs., was a thin serum, depositing on standing about 15 per cent. of blood clot. I need hardly say that the nature of the fluid confirmed the previous impressions of the case. The sound could now be passed into the uterus little more than three inches, and the uterus felt as if it could be isolated from the solid part of the tumor in the pelvis, where its relations were otherwise the same as before.

"The fluid quickly accumulated, and the patient acquired the thin worn look of ovarian disease. It was agreed to make an incision and then be guided by circumstances. This was done on the 21st of November. Dr. Maclaren, of Lasswade, Dr. Carmichael, of Burntisland, and several medical friends of the patient were present. The peritoneum was opened at the umbilicus, and the white glistening surface of an ovarian tumor exposed. The large cyst was emptied, opened to admit the hand, the semi-solid portion broken down through it, and then the tumor was turned out, after separating it from firm parietal adhesions above the umbilicus, firm adhesions in the pelvis behind the pubes, and from numerous bands in the pelvis. The peritoneal covering of the bladder was slightly injured. Seven or eight vessels were secured by ligature, and in doing this a small reflector was of much service. The pedicle was short, but from the previous elevation of the uterus it was fastened outside without any strain. So completely was the uterus drawn up behind the tumor that I came upon the upper margin of the pedicle in the epigastrium, and thought at first that it was a piece of adherent omentum or intestine.

"There were no unfavorable symptoms. There was, however, more suppuration from the wound than I have seen for a very long time. It seemed to be caused by the strangulation of a ring of cellular tissue from one of the sutures having been tied too tightly. I had a letter from her lately saying that she was quite well.

"CASE LXIII.—*Semi-solid Ovarian Tumor. Ovariotomy. Recovery.*—Mrs. B., aged thirty-two, married nine years and childless, was sent to me in the summer of 1867, by Dr. Greig, of Dundee, on account of a semi-solid tumor of slow growth, extending to a little above the umbilicus. The girth was thirty-seven inches. The uterus was high, drawn to the right, and it was not movable. A large piece of the tumor was felt behind it in the pelvis. This also felt fixed. Till she had seen Dr. Greig she was supposed to be suffering from a fibrous tumor, chiefly because there was a bruit in it. This disappeared when she was moved over to her side. She was a delicate-looking woman, and had never been robust. Many years ago she had a large pelvic abscess, which was opened above the pubes. Hitherto she had not suffered much inconvenience from the tumor. I rather, however, recommended early operation as long as her health was fairly good.

"She returned to Dundee very much the worse for her journey to town. She had now frequent attacks of pain, her health began to give way, while the tumor rapidly enlarged, and she came back on the 24th of October, very anxious to have it removed. It now filled the abdomen, and was painful; she was troubled with constant sickness, and could get rest in no position at night. After waiting ten days, she looked so wretched and ill that ovariotomy was performed on the 4th of November, though the period was expected on the following day. Dr. Engelman, of Kreuznach, was amongst the visitors. There was a good deal of parietal adhesion; the omentum was attached behind the pubes, and was cut through to reach the tumor, which was then broken up in the usual way, and removed through an opening scarcely extending to the umbilicus. The cyst came close to the uterus. Double ligatures were first applied, em-

bracing a piece of the cyst, and then a clamp: but there was so much strain upon the uterus that the fundus was brought against the wall. The left ovary was enlarged, containing a thin cyst about the size of a pigeon's egg. It was low in the pelvis, and was with difficulty brought into view. The cyst was seized with two pairs of forceps, punctured, and then torn quite across. There was a good deal of red serum in the abdomen, and part of the small intestine was red and granular. The weight of the broken-down cysts was 16 lbs.

"Anæsthesia was produced by a mixture of two parts of ether and one of chloroform. She sickened severely during the operation, but vomited only a single mouthful of frothy mucus. There was no after vomiting. After doing fairly well for some days, she became exceedingly nervous and depressed. There was no rise of pulse, and the temperature, which had been normal, fell to 96°.4, and continued so for nearly twenty-four hours. Convalescence was slower than usual, and she had several boils near the wound. She returned to Dundee in the fifth week after operation, and has been strong and well since."

(c) CONCERNING THE UPPER EXTREMITY.

ART. 203.—*Reunion of a Phalanx which had remained detached from the Finger for three-quarters of an hour.*

By Dr. GOSCHLER.

(*Wiener Medizinische Wochenschrift*, Nos. 65, 66, 67, 1868; *Gazette Hebdomadaire*, No. 42, 1868.)

After the collected reports of Prédagnal, Sommé, Beauchêne, Balfour, and Braux, one can no longer doubt the reality of reunion of the phalanges, and even of fingers, after separation for a longer or shorter time. Facts of this kind, however, are rare, and the surgeon often fails in his attempts to bring about reunion. The following case deserves notice, as it is an encouragement to aim at reunion in like cases.

A man, sixty years of age, whilst cutting wood, wounded a part of his ring finger, which afterwards remained for three-quarters of an hour in cold water at eleven degrees Reaumur. The separated portion of the finger represented nearly the whole of the last phalanx. The section had taken place about half a line from the joint, on the palmar surface, and at the level of the ungual canula. The flap contained about five-sixths of the nail, nearly the whole of the third phalanx, and the intermediate soft parts; it was about two centimetres and a half in length, and its palmar surface one centimetre at its dorsal surface, and two centimetres and a quarter in breadth. This portion of the finger was pale, the cut surface blanched, and the bone regularly cut through.

Dr. Goschler attempted to gain reunion by first intention, the flap was replaced with care, and kept in its place by strapping; the dressing was completed by salve and a bandage. On the following day, April 30th, the dressing was tinted with blood. There was no pain, redness, nor bad smell.

On the 1st of May the patient was restless, and the finger was painful; the circumference of the wound seemed to be in perfect adaptation along a fifth of its extent; a reddish deposit of blood was interposed between the margins of the flaps in the rest of the wound. During the following three days no apparent change took place; the extremity of the finger was livid and cold, but adherent and evidently sensitive.

On the 6th of May a part of the epidermis was detached; the exposed dermis appeared to be normal.

On the 10th the finger became slightly œdematous, but not at all painful; the rest of the epidermis, together with the nail, was removed; the dermis was red and bled readily; a small slough about two lines in width and one line in thickness was removed from the palmar surface; reunion seemed to be perfect along the whole extent of the wound.

On the following days the slough extended a little, and then became covered by granulations.

On the 25th of May a small spicula about half a line in length, a quarter of

a line in width, and a sixth of a line in thickness, was removed from a small wound on the palmar surface of finger.

On May the 30th the cure seemed complete, the nail had commenced to grow, and the functions of the finger were perfect.

Cure was thus perfected in one month, and, in spite of the formation of small granulations, and the discharge of a spicula of bone, there was no suppuration nor the appearance of a drop of pus; the granulations produced barely a serous exudation. This circumstance is attributed by Goschler to the employment of close dressing—*pansement par occlusion*—which being maintained with care, prevented any action of the air. In addition, reunion by agglutination already existed thirty-six hours after the commencement of the treatment, and on the ninth day there was decided reunion between the soft parts, but not between the osseous fragments. A point of special interest in this case is the re-establishment of sensibility on the third day.

ART. 204.—*On the Treatment of Compound Luxation of the first Metatarsal Bone.*

By MM. BLANQUINQUE and LASSALAS.

(*Gazette Hebdomadaire*, No. 15.)

The following conclusions have been derived from some elaborate discussions on compound luxation of the head of the metatarsal bone. In this injury the surgeon ought—

1. To practise reduction, which can always be done by enlarging the wound.
2. To extirpate the whole of the bone when, in addition to a luxation of the anterior joint, there is complete luxation upon the cuneiform bone, with laceration of the muscles and ligaments, the natural supporters of the nutritive vessels.
3. In cases of reduction, to make a preventive incision as recommended by M. Langier.

ART. 205.—*On Compound Dislocation of the Elbow-Joint.*

By THEOPHILUS MACK, M.D., St. Catherine's, Ontario.

(*Dominion Medical Journal*, March.)

In all cases of compound dislocation of the elbow-joint the two following rules, the author writes, should be considered absolute:—

1. If injury to the nerves or artery has been done, amputate as soon as the pulse will warrant the operation.
2. In cases where amputation appears unnecessary, let reduction be effected after resection, never without.

ART. 206.—*On the Checking of the Movements of Supination and Pronation after Cure of Fractures of the Forearm.*

By Prof. R. VOLKMANN.

(*Neue Beiträge zur Pathologie und Therapie der Krankheiten der Bewegungsorgane*, Berlin, 1868; *Schmidt's Jahrbücher*, No. 10, 1868.)

Professor Volkmann holds that the hitherto received explanation concerning the loss of rotation movement after fractures of the forearm, namely, dislocation of the fractured portions into the interosseous space, either with fusion of the four fragments in a common mass of callus or with luxuriance of callus, which narrows the interosseous space, is insufficient, because lateral synostoses between the radius and ulna, even after complicated fractures and gunshot wounds, have been very rarely observed, and luxuriance of callus, since it is an occurrence almost without exception for the arm to be fixed on pronation in cases where the movements of rotation have been completely or partially lost, would be

more likely to induce a hindrance to pronation than one to supination. He assents to the assumption of Dr. Benno Schmidt, that peripheral dislocation of the fractured portions, which may be easily overlooked in the living subject, presents a decided obstruction to movements of supination, and adds to Schmidt's experience the results of other researches which indicate a further cause for the checking of these movements.

If in a case of fracture of the forearm near the union of the middle and upper thirds the limb be pronated, it may then be observed, when attention is paid to the radius only, the fragments of which are movable, that these fragments, always in proportion to the extent of pronation, form a prominent angle either on the volar or even on the ulnar side of the limb, the first form of dislocation being, as is well known, a frequent occurrence in cases of isolated fracture of the radius. Should the fracture of the radius be consolidated in this angular position with the forearm maintained in pronation, it would necessarily happen that this bone, when the forearm comes to be supinated, would be carried from the position in which it crosses the ulna to one in which it is parallel to it, and that the apex of the angle formed by the dislocated fragments would be twisted over to the radial side of the arm; but the interosseous ligament will only allow of as much supination as its width permits; the greater the angulation, so much the sooner will the stretched ligament act as a hindrance. Volkman is able to show the correctness of this opinion by two practical examples.

An old fracture of the radius was found on examination of a dead body: the left forearm was somewhat deformed in its upper part, and was in a position of complete pronation, and could be rotated outwards only to a slight degree. The seat of fracture was found about three inches below the capitulum, both fragments were united end to end, but were much dislocated and formed an angle of 166°, the apex of which was turned towards the ulna; there was no peripheral dislocation. Even after removal of all the muscles and soft parts, with the exception of the ligaments about the joints and the interosseous ligament, the radius could not be supinated more than 30°, whence it was perceived that the extended interosseous ligament, the width of which at the seat of fracture was scarcely twelve millimetres, prevented the backward rotation. After the interosseous ligament had been separated along its whole length from the radius, complete supination could be effected, the width of the interosseous space after the backward rotation of the angle of fracture previously directed inwards, was thirty-six millimetres, so that the interosseous ligament, in order to allow supination, ought to have been thrice as wide. In this case the dislocation of the fractured parts, in consequence of its inaccessibility on palpation under the thick muscular layers, could during life have been easily overlooked; by pressure with supination it might have been readily removed. According to post-mortem experiences, considerable displacement with an isolated fracture of the radius is possible only when the interosseous ligament is torn to a certain extent from the upper fragment.

An example in a living subject was observed by Volkmann in a man whose radius had been fractured through direct violence about one inch above its middle. A pasteboard splint was applied to the forearm, half pronated, and bent at right angles to the upper arm; the fracture was consolidated in a few weeks. Volkmann was consulted, at the end of three months, as the movements of the hands had not been perfectly restored. The state of nutrition of the arm seemed to be quite normal; all the movements could be easily performed, with the exception of that of supination, which was incomplete and could not be carried to its normal extent by about 50°. A firm but still somewhat elastic resistance could be felt, and the patient experienced a painful sense of stretching at the seat of the recent fracture, this however was completely firm, there was no pain on pressure, nor could any callous protrusion be made out; both fragments of the radius, however, were united at an angle which projected at the volar aspect of the forearm, and was determined after repeated measuring to be about 165°.

Volkmann concurs in Malgagni's advice, that a fractured forearm is better treated in a position of almost complete supination, or at least that it should be so placed that the thumb when bandaged shall not look directly upwards,

but be turned more towards a position of supination, so that the patient can look into the hollow of the hand. In cases where the movement of supination has been quite lost after cure of the fracture with the arm in the prone position, Volkmann holds that it is justifiable, with displacement of the axis of the radius, to saw through this bone at the seat of the recent fracture, and to carry the arm into a position of complete supination, afterwards maintaining it thus until the fragments are reunited. Even in cases where the fractured ends of the radius are united with much peripheral displacement, osteotomy is the best means for bringing about re-establishment of movement.

ART. 207.—*On Fractures of the Olecranon without Separation of the Fragments and without upward Displacement of the Superior Fragment.*

By Prof. BARDINET.

(*Bulletin de la Société de Médecine de la Haute-Vienne*, 1868; *Gazette Hebdomadaire*, No. 7, 1869.)

Professor Bardinet has been led to believe, from clinical experience and from anatomical consideration, that in cases of fractured olecranon separation of the fragments is rare, and in instances where it does occur it is produced by flexion of the forearm, and can be nearly always removed by means of extension. A case was reported by Roux of fracture of the olecranon, in which the lesion could not be recognized for several days. Two cases are reported by M. Bardinet of flexion producing a considerable separation of the fragments after fracture of the olecranon, which was not to any extent due to an upward displacement of the superior fragment. The following are given as the chief bonds of union between the two fragments: The aponeurotic expansion of the triceps, which covers the posterior surface of the apophysis with a layer of fibro-periosteal tissue; the band of Sir Astley Cooper, which forms a tense cord between the two extremities of the arc formed by the hollow of the olecranon; the fascial origin of the anterior cubital muscle, the fibres of which are very favorably disposed for retaining the superior fragment in opposition to the contraction of the triceps; the superior fibres of the anconeus act especially upon the irregular movements of the outer side of the fragment; and finally, but to a slight extent, the articular capsule. The most important obstacle to the upward displacement of the superior fragment is the olecranal portion of the internal lateral ligament, which is inserted at the lower part of the epitrochlea, and radiates from thence to the internal border of the olecranon. When the forearm is flexed this ligamentous band is vertical, and when the forearm is extended it describes a semi-circle backwards, and takes an oblique direction from below upwards, and from before backwards; it is then very favorably disposed for retaining the olecranon in its natural position.

The following were the results of experiments made by Professor Bardinet on the dead body: If the olecranon be fractured at its base, without there being any laceration of the surrounding fibrous tissues, the fragments will remain in close contact to one another, so that the fracture may be readily overlooked.

If the fracture has been complicated with a partial laceration of the fibrous expansion of the triceps muscle, the fragments will be separated from each other to the extent of one centimetre, or of one and a half. The extent of separation will not be increased during flexion of the arm.

If the fibrous extension of the triceps be completely torn through, whilst Cooper's ligament remains intact, the fragments will separate during flexion and form a triangular interspace, the apex of which will be directed towards the centre of the joint, and the base towards the external integument. The finger can be readily pressed down between the fragments.

If both the fibrous expansion of the triceps muscle and Cooper's ligament be torn through, the superior fragments will be retained during extension of the arm in its normal position but with flexion will undergo a considerable and gradually increasing separation from the shaft of the bone. The interspace will not

be of a triangular form, and will permit the fingers to be pressed deeply down without any ligamentous obstruction.

In consequence of these facts, Professor Bardinet, treats fracture of the olecranon by keeping the arm in the extended position. Anchylosis, he thinks, is not so likely to follow, as has been supposed. He objects to Desault's plan of placing the upper limb in an intermediate position between extension and semi-flexion, as this is likely to result in an irregular or incomplete union. Two cases are reported by M. Bardinet. In the first the splints were removed on the thirty-fifth day, and in the second on the thirtieth day. In both cases there was perfect union, and the stiffness of the joints was gradually removed by passive movements.

Art. 208.—*On Excision of the Elbow.*

By George Buchanan, M.D.

(*Glasgow Medical Journal*, November, 1868.)

Excision of the elbow is an operation of such established reputation, and its results so wonderful in regard to the use of the joint, that the interest of the surgeon is now confined to the cases suitable, the mode of operating, and the after-treatment. The eight cases reported by Dr. James Buchanan in the November number of the *Glasgow Medical Journal*, all operated on within a year, contain examples of almost every condition for which it may be undertaken, except primary excision for injury. With regard to the mode of operating, the single straight incision, in every instance except one, sufficed to expose the parts to be excised. As to the after-treatment, Dr. Buchanan has entirely discarded the use of any splint or apparatus. In some instances the limb was laid partially bent, on a pillow without any dressing whatever. In others, a water dressing and bandage were applied. In a third set, carbolic acid and oil, and over that antiseptic putty, were used. In all, the progress to cure was uninterrupted, except by the formation of small abscesses, the evacuation of which was followed by rapid progress. Nothing in the mode of after-treatment seemed to make any difference in the occurrence of these secondary abscesses; and Dr. Buchanan is inclined to believe that—considering the comfort of the patient, the rapidity of the cure, and the after result—the best treatment is by position, rest, removal of any discharge which may trickle away, and abstaining from any dressing whatever.

Art. 209.—*Of Excision of the Elbow-Joint for Injury.*

By C. F. Maunder, Surgeon to the London Hospital.

(*The Lancet*, January 2.)

It has fallen to Mr. Maunder's lot to perform primary excision of the elbow-joint in seven instances; and most of his colleagues have also performed this operation more than once. At the London Hospital amputation of the arm for compound comminuted fracture opening the elbow-joint is rarely resorted to, and then only in cases in which the soft parts as well as the bones are damaged extensively and beyond recovery. In a comparatively healthy subject, Mr. Maunder says he should remove large fragments both of the humerus and of the bones of the forearm, rather than submit a patient to the terrible alternative of amputation.

Of the seven cases referred to, two died: of these, in one instance the injury to the elbow was associated with a compound fracture of the skull; and in the second case—the patient being of a most desponding disposition—death resulted from pyæmia. The remaining five cases recovered with useful limbs; flexion and extension, supination and pronation, being secured to all in varying degrees.

ART. 210.—*On a New Operation for Cancer of the Breast.*

By RICHARD SWEETING, M.D., M.R.C.S.E.

(*The Lancet*, March 6.)

Since all return of purely local cancer must depend on amorphous cancer-cells not removed by previous operations, and as it begins in this fascia, Dr. Sweeting, in this paper, proposes, *instead of removing the breast from the fascia, to remove the lower two-thirds of the pectoralis major, and all that is above it except a portion of the skin.* Dr. Sweeting states that he has operated in this way in three different cases, and with permanent success in each case.

(D) CONCERNING THE LOWER EXTREMITY.

ART. 211.—*Putting-up Fractures of the Leg.*

By JAMES PAGET, F.R.S., D.C.L., Surgeon to St. Bartholomew's Hospital.

(*The Lancet*, February 27.)

In an able lecture on the treatment of fractures of the leg, Mr. Paget stated that the custom of Bartholomew's Hospital is to put up all these fractures at once. "I think," he said, "that, as you watch fractures, you will find that there are very few instances indeed in which you need depart from this rule—very few in which the damage done is such as to make it at all advisable to leave the fracture for a time imperfectly at rest on a pillow, for any supposed righting of the fragments, diminution of swelling, or other supposed change for the better. I do not say that there are no such cases; each case is to be judged upon its own special grounds; but you may always begin the treatment of a fracture with a strong prejudice in favor of putting it up at once."

ART. 212.—*Neuralgia of the Internal Saphenous Nerve.*

By M. BOUSSEAU.

(*Gazette des Hôpitaux*, January 19.)

M. Bousseau related two cases to the Société Médicale d'Observation, which he believes may be thus correctly denominated. He says: 1. This form of neuralgia manifests all the characters observed in the neuralgias of the principal nerves of the trunk and limbs. 2. It is sometimes directed towards the terminations of the nerve, and at others mounts up from these towards its main trunk. 3. It may exist alone or concurrently with neuralgia of other branches of the crural nerve, and with that of the sciatic nerve. 4. It is a very rare affection, and is promptly ameliorated by injections of sulphate of atropia.

ART. 213.—*Perforating Ulcer of the Foot.*

(*The Lancet*, May 1.)

Mr. Hancock read a valuable paper, at a meeting of the Medical Society of London, a short time ago, on this peculiar ulcer. The author had collected a few cases from the practice of the French surgeons, and mentioned one of his own. As these cases are decidedly rare, we are therefore induced to extract the following from a late number of the *Gazette des Hôpitaux* (Jan. 9, 1869): M. Masbrenier had to treat a man, fifty years of age, who had performed on foot a journey of 500 miles. The patient perceived that a corn had formed on the plantar region. As it gave pain he pared it, and found, underneath, a

small ulcerated cavity, of a red color, and containing a serous fluid. On the patient's application to M. Masbrenier, the ulcer was as large as a threepenny-piece, surrounded by hard epidermis, very thick, and of a yellow color. It was situated over the metatarso-phalangeal articulation of the third metatarsal bone. Walking was very painful. Lunar caustic was applied, and the indurated epidermis removed, a fair prospect of a cure being evident. The case is not complete in this shape; for considering what has taken place in other cases of the kind, it is very likely that some caries of bone will ensue.

Art. 214.—*Suture of the Tendo Achillis.*

By M. Delore.

(*Bull. de Thérap.*, September 15; and *Medical Times and Gazette*, February 6.)

M. Delore, of the Charité Hospital, Lyons, relates the case of a boy, nine years of age, who was brought to that hospital twelve days after his tendo Achillis had been cloven by a small hatchet. A separation of the four centimetres existed between the two parts of the tendon. These were cut down to, and after some adhesions had been separated, and the edges of the tendon pared, these were brought into contact by four points of metallic suture. The leg was so fixed that no traction was exerted on the sutures. In from ten to fourteen days all the sutures were removed without union having taken place. There was, however, no separation, and the limb was kept in the same position, the starch bandage not being removed until the fifty-second day. Six weeks were required to restore the complete mobility of the limb after being so long fixed, but at the end of that time the boy had recovered complete use of the extremity. No separation between the ends of the tendon now existed, some adhesion having, however, taken place between it and the skin covering it.

Art. 215.—*Treatment of Talipes Varus.*

By Bernard E. Brodhurst, F.R.C.S., Lecturer on Orthopædic Surgery at St. George's Hospital.

(*The Lancet*, December 5, 1868.)

The *treatment of varus* should commence within some few weeks of birth. Nothing is gained by delaying the operation; but, on the contrary, through delay more time is required to produce an equally successful result. From one to two months after birth is the time which should be selected for the operation.

In very slight cases the distortion may be removed by bandaging and movements of the limb; such treatment is long, however, and often it is unsatisfactory. In an ordinary case of varus the distortion cannot be removed by such means. With regard to mechanical treatment, Phillips says: "In the first degree of varus in infants, the foot may be restored without the division of tendons, and through the use of an instrument for extension only; but such treatment is both difficult of execution and occupies much time, it is often painful, and it is rarely efficacious. In every case, even the most simple, it is better to divide the tendons."

The tendons which require to be divided in talipes varus are those of the tibialis posticus and the tibialis anticus muscles, and the tendo Achillis. And in dividing these tendons it is right to remember that, varus being a compound distortion, its removal must be effected by various stages. Thus, inversion of the foot should first be overcome, after the tendons of the tibial muscles have been divided: the distortion is thus reduced to the condition of equinus. In infantile varus the plantar fascia is seldom contracted, or so much contracted as to require division; but when it has to be divided, it should be done before the section of the tendo Achillis is effected.

In dividing the tendon to be operated on, the knife should first be passed

well beneath it; and the cutting edge being then turned towards the tendon, this will be divided transversely on extending the limb. Some operators, Mr. Brodhurst says, cut down upon the tendon instead of cutting upwards or towards the surface, believing this to be the simpler method. It is a mistaken notion, however, for not only is the mode which he has indicated easier to perform, but effusion of blood is spared by adopting this mode of division of tendons. If not always entirely bloodless, this operation is for the most part so; but it is difficult to avoid wounding vessels when the knife is used to cut down upon a tendon, and frequently under these circumstances the effusion of blood is not inconsiderable.

To divide the tendon of the tibialis posticus muscle, the tenotome should be passed down to the edge of the tibia, at from three-quarters of an inch to one inch above the malleolus, and the sheath of the tendon be opened freely, without enlarging the external puncture. The rounded knife may then be passed into the wound, and, guided by the edge of the bone, it may be directed beneath the tendon. In the adult, the tendon being prominent and easily felt, the sharp pointed knife may be slipped beneath the tendon immediately that the sheath has been opened; but in infants it is safer not to use a pointed knife for the division of the tendon.

The anterior tibial tendon should be divided immediately after the posterior tibial has been divided. The knife should be passed beneath the tendon from without inwards as it passes over the ankle-joint, and the puncture should be made close to the tendon, that the artery may not be divided. Occasionally, the anterior tibial is more tensely contracted than the posterior; in which case it should be divided first.

It is of real importance that the tendons now mentioned—namely, the tibial tendons and the tendo Achillis—should be completely divided, so that the restoration of the shape of the foot should proceed without hindrance. Should the tendon be transfixed, and consequently only in part divided, the treatment would be rendered, at least in a large number of cases, nugatory.

Before, however, this tendon is divided, the mechanical treatment of varus must be undertaken.

After a tendon has been divided subcutaneously, the puncture is immediately to be closed with a morsel of lint, and the limb having been bandaged, is to be bound to a well-padded, flexible metallic splint. It is a rule which should always be observed to place the limb, after division of the tendons, in the same position as before the operation; consequently, the splint is to be bent to the angle which the distortion represented, and bound on the inner side of the foot. When the punctures have healed—on the third or fourth day—the splint is to be removed, and one similar in kind, but longer, is to be applied on the outer side of the leg and foot. Even though a slight degree of traction alone be employed, it will be found that in the course of three days the foot will have yielded more perhaps than could have been expected from the amount of tension which may have been exerted. On replacing the splint the same effect will be produced, until at length the foot is fully everted.

If in the infant it is important, as has been already stated, to deal with talipes varus as a compound distortion, and divide the treatment into stages, it is of much greater moment to attend to this injunction when the patient is older; for should the Achilles tendon be divided before inversion of the foot is removed, it may be impossible to bring the tarsal bones into their normal positions, and to unfold the longitudinal and transverse arches. It is therefore the rule not to divide the tendo Achillis, whether in infantile or in adult varus, until the foot has been fully everted. Although rotation of the anterior portion of the foot may only be slight, yet the difficulty of removing it, and replacing the bones in their normal positions, would be greatly increased by dividing the tendo Achillis, and thus destroying the fixed position of the os calcis.

The plantar fascia, when contracted, should be divided before the support of the Achilles tendon is removed from the os calcis, whether in infantile or in adult varus; otherwise the longitudinal arch of the foot can scarcely be fully expanded. It is rare, however, that the plantar fascia requires to be divided in the infant; yet occasionally the central portion of the fascia may require

division, or the inner band of fascia may alone be contracted. In either case the contracted portion should be fully divided. In the adult the plantar fascia offers a serious impediment to the restoration of the shape of the foot, and always requires to be freely divided.

After the deformity has been removed, active and passive exercises of the limb, together with friction, galvanism, bathing, and other like means, must be employed, until easy if not complete power of motion is gained; for if the shape of the foot alone is restored, and the power to move it is overlooked, the patient will walk, but without elasticity and without motion at the ankle-joint. Then distortion, to a slight extent at least, will recur, and the tendons will again require to be divided. Thus it is that the treatment of talipes varus consists of, in the first place, the removal of the distortion; and secondly, the restoration of the functions of the limb.

Art. 216.—*The Treatment of Talipes Valgus.*

By Bernard E. Brodhurst, F.R.C.S.

(*The Lancet*, December 19, 1868.)

The *treatment of congenital talipes valgus* varies as the amount of deformity varies. Thus slight cases of valgus are occasionally met with, just as slight cases of inversion of the foot are also sometimes seen, which require no other treatment than simply the application of a bandage, to bring the foot gently into its normal position.

When the tendons are rigid—indeed in all severe cases of congenital valgus, and in all ordinary cases—it is necessary to divide the retracted tendons. Whenever tenotomy is necessary in valgus, the peronei tendons require division. In a somewhat increased grade of distortion the extensor longus digitorum will also require division. The distortion should then be reduced to a condition of equinus; and eversion having been slowly and gently, but entirely overcome, the tendo Achillis, when the gastrocnemius is tense, should be divided. The foot should then be fixed upon the leg until the natural position of the limb is gradually restored. The peronei tendons may be divided at one inch above the external malleolus, and the extensor longus and peroneus tertius as they pass over the tibio-tarsal joint.

The *treatment of non-congenital valgus* varies also according to the degree of deformity and the cause which gave rise to deformity.

A large majority of cases of valgus depends on general and local debility, and in these the form is restored by local support and rest of the limb. The general health always in these cases requires attention; the patients are usually overworked and under-fed or wrongly fed. In many, especially where the affection occurs in the young with lax fibre, a well-made boot, with a spring in the sole, together with attention to diet and limiting exercise, is all the treatment that is necessary. But when the distortion is of long standing, and structural shortening has taken place, it will be necessary to divide the peronei tendons, as well perhaps as the tendo Achillis. In paralytic valgus it is seldom necessary to divide tendons, except it be perhaps the tendo Achillis. And it is never necessary in rachitic valgus to divide any tendons. In rachitic valgus the tarsal bones undergo some change in form. The treatment in these cases is that which Mr. Brodhurst has recommended as the treatment of rickets. When rickets is far advanced, and the valgus condition of the foot is considerable, it is useless to attempt to restore the arch of the foot.

Spasmodic valgus being a sequel of convulsive action, it is necessary, after the subsidence of irritation, and when the epileptiform condition, or analogous state has been removed, to divide the retracted tendons and restore the shape of the limb. There is often superadded contraction of other muscles than those of the foot, the upper extremity also frequently being affected, as well as the muscles of the thigh (especially those of the internal and the posterior femoral regions); but in the foot it becomes necessary to divide the extensor longus digitorum, in addition to those other tendons which have been already mentioned.

The mechanical treatment of this, as of every other deformity, should be carried on without force, so that the integument may not be injured. The treatment in many cases is tedious; but force is not necessary: the structures will yield to slow and continued extension.

Art. 217.—*Talipes Calcaneus.*

By Bernard E. Brodhurst, F.R.C.S.

(*The Lancet*, December 19, 1868.)

Talipes calcaneus.—The essential characteristic of talipes calcaneus, whether congenital or non-congenital, is depression of the heel. In congenital calcaneus, the dorsum of the foot is brought more or less into contact with the anterior surface of the leg; and it is retained in this position by retraction of the flexor muscles of the foot. In this respect therefore talipes calcaneus is the reverse of talipes equinus.

Congenital calcaneus is the least important of the several varieties of talipes; for the distortion is easily removed by manipulation and bandaging. And should it not have been removed before the child begins to walk, the muscles of the calf of the leg, which extend the foot, rapidly overcome this abnormal action of the flexors. Doubtless, however, cases are occasionally seen in which structural shortening of the flexor muscles has taken place, and where, consequently, operative proceedings are necessary to restore speedily the normal position of the foot. In these rare cases, the tendons of the flexor muscles require to be divided as they pass over the ankle-joint; the foot should then be supported on a well-padded, flexible splint; and at the expiration of a week, slight, gradual extension, as in the other forms of talipes, is to be made until the normal position of the foot is obtained

Non-congenital talipes calcaneus is usually of paralytic origin: the heel drops through paralysis of the muscles of the calf of the leg. Here, therefore, as in congenital calcaneus, the heel first touches the ground in walking. The principal changes to be observed, then, in this form of talipes, are depression of the os calcis, elevation of the anterior portion of the foot through retraction of the flexor muscles of the foot, and shortening of the plantar fascia; through which the sole becomes deeply arched, and the heel and the ball of the great toe become further approximated. In this deformity, especially when it arises from paralysis, the muscles of the calf of the leg undergo wasting and fatty degeneration. And, when the distortion is of long standing, not only are the muscles of the calf of the leg attenuated, but all the muscles of the leg will have passed into a state, more or less, of fatty degeneration.

Treatment.—It is seldom necessary, in the treatment of this affection, to divide the flexor tendons. The plantar fascia, however, generally requires division, and subsequently mechanical treatment will improve the shape of the limb. If, however, these cases are seen soon after distortion has arisen, not only may such deformity be prevented, by the adaptation of mechanical means, but it is probable that muscular power may be in part or even wholly restored by means of stimulating applications, warmth, and galvanism. Unfortunately, however, these deformities are often not seen until much time has elapsed, when loss of power is probably to a great extent permanent.

Art. 218.—*On the Treatment of Talipes.*

By Louis Bauer, M.D., Brooklyn, U. S.

(*Lectures on Orthopœdic Surgery*, New York, 1868.)

"The general treatment of talipes resolves itself into the following indications:—

"1st. The removal of muscular impediment.

"2d. The re-position of the tarsal bones to their normal location.

"3d. The re-establishment of the motor power.

"4th. The promotion of nutrition, growth, and development of the affected extremity.

"In young subjects, muscular contraction constitutes the *chief*, if not the only *cause* of most cases of talipes; their division is therefore the *chief and sufficient remedy* for the re-establishment of form and position of the foot. All that remains to be done besides tenotomy is to keep the newly acquired position by appropriate appliances. If the bones of the tarsus are malformed, as is usually the case in patients of some age, who have employed their affected extremity in locomotion, the second indication presents itself as the next object of treatment. The means of replacing the tarsal bones are the hand and mechanical appliances. The former is of invaluable service. Without causing any painful pressure or contusion, the great power of the hand can be concentrated at any place where it is needed; and the more assiduously it is employed, the more rapidly the bones will yield. There is no mechanical apparatus, however ingeniously constructed, that could be substituted for the hand in the mechanical treatment of talipes with an approximate degree of efficacy. In fact, could we without interruption employ the hand as a mechanical agent, we would relieve most obstinate forms of talipes which but too frequently withstand mechanical appliances. These latter we resort to as mere auxiliaries, and for the time that the hand cannot be used. Between the two, the mechanical treatment should be divided; and proper care should be taken that the apparatus is always properly adjusted, so as to act effectively in the intended direction. In order to accomplish this, the patient should be constantly under the eye of the attending surgeon, or of a competent substitute, and the propriety of placing a patient in an orthopædic institution suggests itself most forcibly. For to patients or nurses such a duty cannot be assigned; they are neither competent, systematic, nor resolute enough!

"To a certain extent, the remedies previously suggested comply also with the 3d and 4th indications. It is a common observation of orthopædic surgeons, that the relief of contracted muscles by tenotomy reacts most favorably upon the nutrition of the affected extremity, and nutritive supply promotes self-evidently its growth and development. Passive motion co-operates in the same direction.

"We may, however, do more to promote the motor power still extant, or maintain the fast deteriorating structure of the affected muscles. The most efficacious remedy in behalf of innervation is electricity and Faradayism. It should be used with assiduity every day and for months in continuation; it will prevent structural decay and stimulate the existing mobility; you can concentrate its action upon single muscles and muscular groups; and by perseverance, establish muscular action where none existed before. Electricity is the substitute of volition, and the best local gymnastic agent. Next are frictions with alcoholic liquids; with phosphorated oil (phosphorus gr. iij, dissolved in an ounce of warm almond oil); the use of the flesh brush, with or without cold irrigation, and such internal remedies as the case may suggest. Proper care should be taken to aid the generation of animal heat in the affected extremity, by advising the use of worsted stockings or flannel bandages. Besides this, a proper hygienic regimen should be observed, to promote the constitutional health.

"With all, gentlemen, you may fail in your efforts through the intricacy of the case. All surgeons have had such experience even in instances that seem to be promising. Hence I should advise you never to engage to cure, but simply to guarantee your skill and attention. Your professional dignity and prudence should prevent you from making a promise which you might be unable to realize. For the same reason do not uncharitably judge the failure of your colleagues, because they may have done their full duty and failed, where you might have been equally unsuccessful."

ART. 219.—*Loose Cartilage in the Knee-joint; Extraction by the Direct Method; Recovery.*

By ALFRED POLAND, F.R.C.S. (from Notes by Mr. W. YATES.)

(*Medical Times and Gazette*, January 9.)

The following case is here recorded for the purpose of confirming the opinion of many excellent surgeons, that the removal of these bodies may be effected with comparatively little danger, provided that all due caution be adopted both before, during, and after the operation; and, again, the case proves that the direct operation is still advantageously employed:—

John F., aged fifty-eight, admitted into Guy's Hospital on July 4th, 1868, under the care of Mr. Poland.

On admission the right knee-joint was somewhat larger than the left, but there was no pain or tenderness either on pressure or movements of the joint; the patella was freely movable, and the joint likewise. There was no abnormal appearance about the joint, and no deformity or protuberance; the integuments were perfectly natural. There was some little fluid in the joint, accounting for the slight increase in size. On careful examination a hard, rough, elastic substance was situated on the outer side of the right knee-joint, opposite the external condyle of the femur, and in a line with the upper part of the patella. It seemed to be imbedded deeply in the tissues, and cannot be felt without a good deal of pressure; it is perfectly movable, and slips about from one side of the knee to the other behind the patella, and it imparts a sort of crepitant sensation to the hand on manipulation. There is great difficulty in fixing it in its ordinary position at the upper and outer angle of the joint, in consequence of the thickness of the surrounding tissues, which contained abundance of fat. Various means were devised, and Mr. Millikin made a kind of forked clamp, which certainly held the loose cartilage in its position, but the pressure required was so great that the skin suffered, and the man was unable to endure it. The man repeatedly urged the extraction thereof, and would run all the risks attending the operation so that he could get rid of it, as with it in the joint he could not gain his living. He could not afford to be constantly laying up, nor could he work with his knee rendered motionless by mechanical contrivance to prevent the body slipping about. However, having signally failed in attaining the object of fixation, Mr. Poland determined to comply with the man's urgent wishes. Before proceeding to operate, the limb was placed upon a back splint, extending from the buttock to the foot, and kept in that position at perfect rest for a fortnight; and for three days before the operation an ice-bag was kept constantly applied over the knee-joint, so that on August 17th, 1868, the loose cartilage was removed under chloroform in the following manner.

The loose body being shifted to the upper and outer angle or pouch over the external condyle, the integuments were carefully drawn over it and pressed down deeply below the body into the joint, and there maintained, fixing and thus preventing the escape of it into the joint during the attempts at extraction. This important preliminary proceeding was ably performed by the dresser, Mr. Lovell, by means of the four fingers of the right hand, and his instructions were solely and wholly to attend to this pressure, and to keep it up even after the removal of the body, and until the external wound was finally closed up. A semilunar incision about two inches in length was made directly over the body, extending from the tendon of the biceps to near the patella; and after cutting the tissues to some considerable depth, the white glistening foreign body was visible. The knife divided the synovial capsule freely along the whole upper surface of the cartilage, and then a scoop-like instrument, made somewhat after the fashion of that used in lithotomy, was carefully insinuated behind the body before any attempt at extraction was made. The movement of its introduction gave rise to a peculiar sensation of a sudden giving way, as if a vacuum had been suddenly replaced by rushing in of air, a kind of suction-like process. The body was now tilted forwards, and after some little manipulation, in consequence of

the tuberculated character of the structure, which prevented its ready egress, the loose cartilage was extracted. There was no bleeding whatsoever, and the wound was sewed up with a common darning-needle by the overhand uninterrupted stitch. A compress was placed over the wound, and the assistant now, for the first time, relieved from his tedious job of compression, having perfectly succeeded in his object. The limb had never been moved during the whole operation, and was still on the back splint. A bag of ice was now kept assiduously applied. The stitches were removed on the fourth day, and the wound healed by first intention. There was some little tenderness in the joint on the third day, and this was due to some rough handling which had been unadvisedly used. The splint was removed at the end of the tenth day, and slight motion allowed. On the fourteenth day he was about the wards, and gradually regaining the free use of the knee. He left the hospital perfectly cured on September 2d, 1868.

The loose cartilage removed was of the size of a walnut; it was plano-convex, and the convexity formed into prominent round tubercles, just like a well-marked mulberry calculus. Its structure was of the usual kind of loose cartilage—namely, being composed of cartilaginous and osseous tissues.

Art. 220.—*On the Treatment of Hygroma of the Patella and of Hydrarthrosis by Forcible Compression.*

By Prof. Volkmann.

(*Berl. Med. Klinik.*, 1868; *Aerztliches Literaturblatt*, No. 9, 1868.)

Professor Volkmann has for ten years applied, with very good results, the method of forcible compression in the treatment of hygroma and of chronic synovial effusions of the knee-joint. The proceeding is the same both with effusions into the bursa patellaris and with effusions into the knee-joint itself.

To the hollow behind the knee is applied a flat wooden splint from nine inches to one foot in length, and thickly padded with wadding, to guard against pressure upon the popliteal vessels. This splint is slightly bent at the part corresponding to the flexure of the knee, so that the limb rests upon it in only a slightly bent position. The region of the knee-joint, as far as the splint extends, is then bound round with a broad and very firm bandage of flannel or knitted material, which is pulled tight with great force. The bandage is renewed every second day.

This method is painful. The patients become impatient and complain of uneasiness. The symptoms, however, do not increase in severity, but gradually cease. How far the pressure may be carried is learnt from experience. It is very soon observed that uninflamed parts are capable of bearing unusually powerful compression without damage.

The results are very satisfactory.

In cases of simple chronic hygroma of the patella, Volkmann can recommend this as a sure and rapidly efficacious plan of treatment. An hygroma is considered as simple even when there is extensive fibrinous thickening of the walls, and when no free bodies are contained within the sac. This is a very common form.

Volkmann observed but one failure in fifty-eight cases of hygroma in front of or behind the patella. In from four to seven days the effusion was completely absorbed, even when the swelling had been as large as the fist. When the contained fluid has disappeared, a loose wrinkled bag hangs down in front of the knee-joint. This never refills, but contracts very slowly.

No relapse was observed in any of these cases. Volkmann attaches great importance to the continuance of the forcible compression for at least two days after complete absorption has been obtained, and always orders the patient to wear a simple roller for a short time afterwards.

Forcible compression is less efficacious in cases of chronic effusion into the knee-joint, as the fluid is never entirely removed; still, this plan does more service than other means. In such cases the treatment by forcible compression

is associated with an evacuatory puncture of the joint, and with the application of iodine. By these means the oldest and most obstinate cases are brought to a permanent cure.

Art. 221.—*On Resection for Knee-Joint Disease in Children.*

By Dr. König.

(*Archiv f. klinische Chirurgie*, ix. p. 177—221, u. 446—470, 1867, 1868; *Schmidt's Jahrbücher*, No. 1, 1869.)

To the morbid changes of the knee-joint affected with tumor albus or arthrodial disorganizations, which may necessitate the operation of resection, belong tortuous fistulous passages, preventing a free discharge of pus, ulcerations of the capsule, conversion of the ligaments into granulations, through which spontaneous luxation takes place, ulceration of the articular cartilage, absorption of the osseous tissue resulting from abnormal pressure, primary disease of bone through abscesses in the epiphyses, &c. The clinical representation indicates a chronic course: swelling, formation of fistulæ, with increasing suppuration, dislocation, multiplicity of sinuous passages, and their relapses at certain spots, permit one to determine upon the great probability of morbid changes within the joint. The fistulæ lie in front of the thigh, one or two inches above the patella, by the sides of the extensor tendon; in the hollow of the knee at the inner side of the flexor tendons, rarely near the inner and outer condyles; in the leg they are frequently placed at the upper and inner parts of the tibia, frequently in the line of the joint to the right and left of the ligamentum patellæ. Probing gives uncertain information; on the other hand, crepitation during the friction of the two articular extremities and dislocations (backward displacement of the tibia, considerable distortion externally, the condition of genu valgum) are important symptoms. When joints thus affected are not cured by comfortable treatment they require resection. Against the possibility that after some years such joints can yet be cured, there is to be brought in prominence that the operation removes a host of dangers, often arrests the progress of the disease of the articular ends, and so by preserving part of the epiphyses is followed by growth of the diseased limb. Dr. König from measurements made on four joints in a newborn child and in individuals, respectively aged eleven, sixteen, and eighteen years, has found that the yearly growth of the epiphysis is about two-thirds of a millimetre at every age of life. From this it is evident that with children the surgeon must be very sparing in the removal of parts of the joint ends. The saw should be carried parallel to the cartilaginous ends of the bones. The limit of the removable parts in a child aged eleven years was in the centre of the lower end of the femur—the intercondyloid fossa, 1.2 centimetre above the articular surface, and at the condyles, 1.8 and 1.9 centimetre. In the femur of a girl aged sixteen years the extent of the removable parts was 1.4 centimetre in the centre, 2.1 centimetres at the condyles. In the tibia of a girl aged eleven years the saw should not be applied at a greater distance than 1.5 centimetre from the free margin of the articular cartilage in the centre, and 0.5 centimetre at each side. The tibia is generally arrested in its development to a greater extent than the femur. Useful limbs may be preserved by resection, even in cases where the surgeon is compelled, with children beyond the age of eleven years, to remove the bones beyond the limits formed by the epiphysial lines. Amputation is not indicated unless one is compelled to remove more than four inches. With children up to the age of ten years it is better to amputate in cases where the whole extent of the epiphyses must be sacrificed, since the limb left after resection loses in utility in consequence of the subsequent shortening, whilst in patients below this age resection should be undertaken whenever a large portion of the epiphyses can be retained. Above the age of eleven years, when not a very considerable portion requires to be removed from the joint, the surgeon should always perform resection, even when the whole epiphysis is to be sacrificed. In spite of the shortening which may be expected to take place, the patient may preserve a tolerably useful limb. Anæmia and general scrofulosis

do not contra-indicate resection; on the other hand, amyloid degeneration and tuberculosis do.

According to the statistics of 112 cases of resection of the knee performed up to the age of sixteen years, Dr. König shows that the percentage of recoveries in children is 62½, of deaths 19$\frac{9}{11}$, and of unsatisfactory results 37½. The mortality after the operation on children is much reduced; the proportion of failures is about 1 in 3. The rate of mortality is less than that of amputations of the thigh, considered generally. Dr. König has performed five resections, two on children, all with success. The curved incision is the most suitable. Anchylosis is to be considered as the great aim. Retention or removal of the patella has no influence upon the result. Great care must be taken to carry the saw symmetrically. The surgeon should preserve as much healthy structure as possible. Partial resection is recommended by Dr. König. The horizontal portion of the incision is brought together by sutures, the lateral portions are left open, and are dressed at first with slips of oil lint, later with drainage tubes. Then a slightly bent gypsum splint is applied, and this is strengthened by long strips of linen or flannel placed along the politeal space and the sides of the limb. The whole limb is then placed in a hollow of a long sand-bag. The apparatus is allowed to remain as long as possible—from four to six weeks at least. It should not be removed, except with forward starting of the knee, great œdema of the extremity, and severe pains. The bandage must then be cut away with an ordinary carving knife, and a fresh one applied under chloroform. The gypsum bandage is to be preferred to all others.

Dr. König gives the following remarks on the indications for amputation, and those for resection and conservative treatment in cases of gunshot wound of the knee:—

1. The question of the admissibility of resection and conservation for gunshot wounds of the knee has not yet been decided by experience. In the face of the doubtful intelligence communicated by the statistics of thigh amputations, conservative treatment carefully applied and adapted to the principles of modern surgery seems in a great number of cases to be urgently prescribed.

2. The course of lesions of the knee shows that the patients suffer from absorption fever—septicæmia—which is set up by the local decomposition of the exudation, and may be either very acute and frequently fatal or less severe.

3. In cases of extensive injury of the joint by firearms primary amputation is demanded; a useful limb cannot be preserved, and injuries of this kind are very liable to result in an acute and rapidly fatal septicæmia. Less severe injuries may at once be treated according to the principles of conservative surgery. In consequence of exterior conditions primary resection is rarely possible in a campaign.

4. The treatment of these slighter injuries of the knee is carried out according to their course. The occurrence of acute septicæmia necessitates in most cases amputation. A not very acute attack of septicæmia requires a free discharge from the joint of secreted fluids, and the removal of foreign bodies and osseous fragments. In some cases simple incisions will be sufficient for these purposes; in others, extensive opening of the joint, with or without resection (removal of the involved portions of the bone), will be requisite. In all cases, and even after the last mentioned severe measures, firm bandages of gypsum, &c., should be applied.

5. Extensive destruction of bone, in every circumstance, even when no threatening symptoms are present, demands resection; or in cases where the lesion extends far beyond the epiphyses, secondary amputation.

6. The occurrence of pyæmia, except in rare cases, does not offer an indication for operative measures.

Art. 222.—*On Resection of the Knee-Joint.*

By L. Stromeyer.

(*Handbuch der Chirurgie*, Bd. 11, 1868; *Schmidt's Jahrbücher*, No. 1, 1869.)

According to Stromeyer, resection of the knee succeeds only under the following suppositions; 1. The existence of certain indicated hygienic conditions during the after-treatment (isolation of the patients in huts and tents). 2. Restricted destruction of the hard and soft parts (resection is not performed unless the saw can be applied within the limits of the epiphyses). 3. Very excessive distortion of the extremity causes great difficulties during the after-treatment, and even in the operation. 4. Great care in the after-treatment: an apparatus must be applied so as to keep the limb in a proper position. Stromeyer recommends German surgeons to perform resection in those cases in which, although the joint disease is in process of cure, the limb is likely to remain useless. Here it is useless to attempt extension with the patient under the influence of chloroform, for although the resistance of the soft parts can be overcome, the joint ends cannot be brought into a normal position, and the limb remains an unserviceable one. The resistance is extremely difficult to overcome, and excessive force is to be avoided. Fractures from gunshot wounds, compound dislocations, anchyloses of the knee in a flexed position, and caries serve as indications for the operation of resection.

The surgeon makes on each side along the posterior margin of the condyles a longitudinal incision four inches in length; these are joined by a transverse incision under the patella, which bone is excised. It is difficult to work with the saw in the exact direction, so that the osseous surfaces can be at once adapted to one another; the limb becomes straight after the resistance of the muscles, and aponeurosis has been overcome by extension during anæsthesia. In a case of osseous anchylosis the surgeon saws through the bone from before backwards, and leaves near the popliteal space, behind the wedge-shaped piece thus formed, a thin bridge of bone, which is broken down by extending the limb. The soft parts should never be detached from the bones to a greater extent than is necessary for the easy working of the saw. If extension of the limb be difficult after resection tenotomy should be performed. The object always in view during the after-treatment is to bring about osseous anchylosis. The wound should be plugged after the operation to prevent parenchymatous afterbleeding. Esmarch's iron splint is the most suitable apparatus; and in an advanced stage of healing, leathern splints or a movable gummed bandage. Country air and good nursing are requisite conditions for success. After the cure the utility of the anchylosed limb may be very great; if firm union fails to take place, amputation must in the majority of cases be resorted to. The mortality in 200 recent cases of resection of the knee was 30—60 per cent.

Art. 223.—*On Resection of the Knee Joint.*

(*Pitha u. Bellroth, Handbuch der Allgemeinen und Speciellen Chirurgie*, Bd. iv. Abth. 1, Heft. 2, p. 293, 1868; *Schmidt's Jahrbücher*, Rev. 1, 1869.)

Resection of the knee-joint is indicated, or at least justified, in cases of fracture from gunshot injuries, with comminution of the condyles and with projectiles remaining in the knee; also in cases of caries and necrosis of the epiphyses, of slight forms of tumor albus, and of true anchylosis in which no other measure was formerly open to the surgeon except amputation either at or above the knee. The operation, which is undoubtedly a valuable conservative measure, forms in and by itself no very severe proceeding, and is not relatively difficult in its performance; nevertheless, according to experience hitherto, it promises less chance of successful results than resection of other joints, from the facts that it is so frequently followed by persistent suppuration and exhaustion, and that the curative processes are much prolonged, and, in many instances, very

imperfect in their result; a faulty and useless limb being often all that is obtained after an extremely arduous, wearisome, and painful after-treatment. In children, with whom the chances are the best, the growth of the extremity is often impaired, so that the shortening of the leg increases year by year, and the limb which has been saved with so much trouble ultimately becomes worthless. The strikingly good results of resection in England seem to depend in a great measure upon the fact that surgeons there have frequent and early recourse to the operation in cases where German surgeons believe that the chances of cure without an operation ought to be favored. The question as to which of these two lines of practice is the better has not yet been definitely solved, at least an abundance of indications for the operation, in opposition to the terminal results of spontaneous cure, has not yet been in any way justified.

Professor von Pitha recommends Langenbeck's longitudinal incision by the side of the patella; this plan does not materially increase the difficulties of the operation, and on the other hand favors considerably the process of recovery. The patella is extirpated. The most suitable apparatus for confining the limb is a perforated gypsum splint, or the surgeon may apply Esmarch's apparatus, or again a splint made of block tin fitted to the thigh and leg, and furnished with a foot-board; the portion of this splint which corresponds to the knee should be movable. The leg must form with the thigh a very obtuse angle, open behind. The wound in the integument is lightly covered by charpie, and left open for three or four hours, on account of after hemorrhage. It is advisable to inject morphia subcutaneously after the narcotic influence of chloroform has passed off. Suture of the bones is the safest measure to carry out in order to oppose dislocation of the osseous fragments. A single metallic suture is passed between the bones at a spot corresponding to the external wound, and is allowed to remain for three or four weeks until union at the osseous surfaces has taken place. A lax fibrous union depends upon want of power in the limb, and necessitates an external mechanical support.

ART. 224.—*On the Condition of the Limb after Excision of the Knee-Joint, in Four Cases.*

By HENRY SMITH, F.R.C.S., Assistant-Surgeon to King's College Hospital.

(*Medical Times and Gazette*, December 5, 1868.)

In the first case, a man, now thirty years of age, in perfect health, presented himself at King's College Hospital on Saturday, Nov. 7th. He was recognized as one who had been operated on twelve years previously by Sir William Fergusson for strumous degeneration of the synovial membrane, and ulceration of the cartilages of the knee-joint. On examination, the present condition of the limb is as follows: It is perfectly straight and well developed, the calf of the limb being nearly as big as that of the other; there is firm bony union at the knee, and the shortening of the limb is so slight that it is scarcely perceptible. This man's agility is wonderful, and as a proof of it he brought with him to the hospital a handsome bat, which had been presented to him as a reward for his great superiority and success in cricket.

The second case is that of a man, aged twenty-three, upon whom Mr. Smith operated in August, 1867, for disease of the knee-joint of many years' standing, and which had resulted in the production of a deformed, withered, and totally useless limb. Mr. Smith showed this man to the Fellows of the Medical Society of London in the October following, and at this date the union was not firm, and the patient's movements were difficult. An opinion was expressed at the meeting that most likely the man would get tired of his limb, and request its removal.

This same man presented himself to Mr. Smith at King's College Hospital in October last, fourteen months after the operation, and the following was the condition observed: The health of the man is excellent, the limb quite straight, and the union at the site of operation perfectly firm and osseous. The leg is

about an inch and a half shorter than the other, and is well developed. The man could move about with the greatest agility without the aid of a stick, and expressed himself as very well pleased with the result.

The third case is that of a boy, aged twelve, upon whom Mr. Smith operated in May, 1867. An especial feature of interest obtained here in the circumstance that the boy had been an inmate of one of our larger hospitals, and under the care of a surgeon in whose sight excision of the knee does not find favor, and who is a strong advocate of a reliance upon the resources of nature to bring about a cure. These views were carried out in this instance until the patience of the surgeon became exhausted, and amputation of the thigh was recommended. When Mr. Smith saw the boy, interference was clearly required, but he never met with a case better suited for excision. Mr. Smith was enabled to complete the operation, and yet take away but a very small section of the joint ends of the bones. In course of time this boy left the hospital with only a fibrous union. On Nov. 10th the condition of the boy was as follows: He was in robust health, and could move about with the greatest agility without the use of any support. This limb was apparently as long as that on the other side, but in reality about an inch shorter. It was not quite straight, but slighly bowed out. The union at the site of operation was osseous and quite firm. Limb generally well developed.

The fourth case is that of a girl, aged fourteen, on whom Mr. Smith operated just before Christmas last. She had extensive disease of the synovial membrane, and a very contracted and deformed limb. Mr. Smith was obliged to remove more than the usual thickness of bone in order to get good apposition of the parts. Her health was in a wretched state. The present condition of the girl is as follows: She is in excellent health, and can walk well without assistance. The limb is well developed, slightly bowed out; union at the site of operation osseous and firm. Leg on operated side is shorter than the other by one inch and a quarter.

From the results of these four cases but one conclusion, Mr. Smith writes, can be arrived at—viz., that in each instance the patient has been restored to health, and that a useful limb has been preserved to its possessor; and these two results are what the surgeon seeks for in the performance of excision.

ART. 225.—*On Resection of the Tibio-Tarsal Articulation.*

By E. SPILLMANN, M.D.

(*Archives Générales de Médecine*, No. 2, 1869.)

Out of sixty-eight cases collected by Dr. Spillmann, in which the ankle-joint was resected for compound dislocations or compound fractures, there were fifteen unsuccessful: of these eleven resulted in death after the operation, two in death after consecutive amputation, and two in recovery after amputation. The causes of death in the thirteen cases were gangrene, purulent infection, and purulent deposits. Mortality 18 per cent.

Tables of seventy-three cases in which the operation was performed for pathological affections of the ankle-joint show that the proportion of cures to unsuccessful and doubtful cases were as fifty to twenty-three. There were twelve deaths resulting from the resection, and two from consecutive amputation. The number of consecutive amputations was eight, in three of these there was a successful termination; the result of the remaining three is not indicated.

Dr. Spillmann concludes his memoir with the following propositions:—

1. Partial or total resections on account of caries, necrosis, or prolonged suppuration, constitute excellent operations, when these affections are the secondary results of a wound opening into the joint.

2. Resections for pathological affections properly so called, are, on the other hand, very hazardous, not so much by reason of the direct mortality which they occasion, as from the numerous relapses which follow the operations.

3. An exception is to be made in favor of partial resection of the fibula, which generally escapes a relapse.

Art. 226.—*On Gonorrhœal Sciatica.*[1]

By M. Al. Fournier.

(*Gazette Hebdomadaire*, No. 48, 1868.)

There are still many obscure points in the etiology of sciatica, and numerous cases occur in which the origin of the evil cannot be discovered. Among these forms of sciatica from the causes hitherto undetermined, there is one which, according to the clinical observations of M. Fournier, is developed in subjects affected with an urethral discharge, derived from the gonorrhœal influence, and, in short, dependent upon the morbid state of the urethra.

Inexplicable as this may seem, it is nevertheless certain that it is a fact. The existence of gonorrhœal sciatica, and that the affection is not merely a coincidence in the same subject of two maladies, one of which is frequent in occurrence, and the other extremely common, are established by M. Fournier in the following arguments :—

First argument: *Sciatica figures in the number of the manifestations of gonorrhœal rheumatism.*—How are we to regard sciatica arising in the middle of an attack of rheumatism of gonorrhœal origin? As, for example, a case of rheumatism of the gonorrhœal type, characterized by joint affections, tendinous synovites, ocular phlegmasiæ passing from one eye to the other, erratic pains, &c. To these symptoms is added a sciatica, coming on without any appreciable cause, and without any external provocation, which lasts for a few days and then vanishes.

Two hypotheses may be brought forward to explain the cause and the nature of this sciatica: the affection is either an intercurrent and accidental incident, in short, a coincidence, or rather it is one of the symptoms and of the manifestations of the parent affection, with which it is bound up in the same rank with the joint symptoms, the synovites, the ophthalmiæ, &c.

The second hypothesis is, according to M. Fournier, the more simple and the more rational. Several symptoms of the same order are found united in the same patient, is it not logical to attribute them to the same cause? How and why are we to cut up such a collection of symptoms and say that the joint affections, synovites and the ocular phlegmasiæ, are due to gonorrhœal rheumatism, but the sciatica springs from another cause? And again, what will this other cause be? It is sought for in vain, and nothing is found which can explain the development of this special phenomenon of sciatica, but that common influence which holds in dependence upon it the coincident morbid symptoms. M. Fournier thus derives the logical inference that sciatica is to be considered as an expression, in a special form, of gonorrhœal rheumatism.

M. Fournier gives two cases which demonstrate the reality of sciatica as a manifestation of gonorrhœal rheumatism. The first case was that of a man, thirty-one years of age, strong and robust, and without antecedents of rheumatism in his family, who had never himself previously had rheumatism, and who in the year 1862, after having contracted gonorrhœa for the first time, was attacked with gonorrhœal rheumatism characterized by synovitis and other joint affections. In 1863 he had a fresh clap, which was quickly accompanied by ophthalmia and an intense sciatica. The sciatica disappeared a few days before the cure of the discharge. In 1866 there was a third attack of gonorrhœa; six days after its appearance, pains commenced in the tendines Achillis and in the right knee, and these were followed by intense pleurodynia on the left side, arthritis of the left knee, and sciatica; and afterwards by hydrarthrosis of the left knee, pains in the right wrist, and conjunctivitis in the right eye; finally, by numerous rheumatic manifestations affecting various regions (articular synovites, pains near the osseous apophyses, in the muscular masses, &c.), coming on successively or simultaneously with the movements of remission and exacer-

[1] Read before the Société Médicale des Hôpitaux, October 23, 1868.

bation, for a period of four months. The cessation of these symptoms coincided with the cure of the discharge. The subject of the second case was a young man, twenty-five years of age, lymphatic but with good general health, who had had three attacks of gonorrhœa, all of which were accompanied by multiple and varied rheumatic symptoms. During the third attack, in the midst of varied affections. such as double ophthalmia and pains in the different joints, there appeared a perfectly characteristic and very intense sciatica. In addition there was observed a painful swelling of the head of the third metacarpal bone, with a rosy coloration of the integuments and stiffness of the joint.

Second argument: *Several attacks of sciatica associated with other undoubted manifestations of urethral rheumatism have been observed to manifest themselves successively in the course of several successive attacks of gonorrhœa.*— This argument seems to M. Fournier to possess great value. Here, in fact, all suspicion of coincidence ought to disappear. If the first attack of sciatica might be considered as an accidental complication, it would indeed be an abuse of chance to attribute to it again the development of the second attack. The reproduction of the same phenomenon under identical conditions is significant to the highest degree. It proves a cause producing on two occasions the same effect. And this cause is evidently the gonorrhœal influence.

M. Fournier, in support of this opinion, reports two cases of his own, and cites two given in Sir Everard Home's work on the treatment of strictures.[1] In these remarkable cases sciatica was developed each time during the course of successive attacks of gonorrhœa, complicated with stricture of the urethra, and did not disappear until after the cure of the stricture. According to Sir Everard Home these sciatic attacks are not so much a direct consequence of urethral stricture, as they are the result of gonorrhœal inflammation of the contracted part of the canal. This is precisely the doctrine which is maintained by M. Fournier, who believes that the sciatica as well as the arthritis, the ophthalmia, the articular inflammations, is caused in these cases by an irritation of the urethra.

Third argument: Among those subjects who are so singularly constituted that they cannot contract a gonorrhœa without being afflicted with rheumatic symptoms, *sciatica is sometimes observed to alternate in a series of attacks with rheumatic manifestations of a different order.*

A patient, for example, has been affected with three attacks of rheumatism in connection with these consecutive attacks of gonorrhœa. In the two first attacks the symptoms attacked the joints, the synovial sheaths of the tendons, the eyes, &c., but nothing was manifested in the sciatic nerve. In the third attack, on the contrary, sciatica appeared either alone or accompanied by the other local manifestations of rheumatism.

It may be said that this attack of sciatica was not a gonorrhœal affection, and that it does not take a part in the series of symptoms of the same nature. If, in the third attack of rheumatism, argues M. Fournier, some joint-swelling had appeared instead of the sciatica, would the nature and the gonorrhœal origin of this joint-system have been doubted? Certainly not. But, then, why refuse to sciatica that character which would be accorded without dispute to the articular localization? Cases which prove this argument are not rare, and M. Fournier has observed several examples.

Gonorrhœal sciatica differs from ordinary sciatica in its mode of evolution. Thus the former generally commences with a sudden and instantaneous explosion, and reaches at once its *summum* of intensity; moreover, the pains which are excessive at first, soon diminish in violence, becoming moderate and tolerable, so that about the fifth, fourth, or even the third day a relative calm is established, after which, the affection, having persisted in the same condition during a longer or shorter period, definitely disappears. The total duration of the symptoms is generally short, particularly if it be compared with that of ordinary sciatica.

The diagnosis can in most instances be readily established when the sciatica

[1] Practical Observations on the Treatment of Strictures in the Urethra. London, 1803.

appears in the midst of a series of rheumatic manifestations; but it sometimes happens that during the course of a gonorrhœa, sciatica is presented as the single and unique manifestation of urethral rheumatism. Here the diagnosis becomes more obscure; have we to do with a simple independent neurosis, or with a secondary gonorrhœal symptom? One may indeed, in cases of this kind, suppose a pure coincidence. However, gonorrhœal rheumatism is not manifested in every case by one series of symptoms; the affection may be restricted, and, as one often sees, to a single manifestation—to an articular fluxion or a tendinous phlegmasia, or an ophthalmia. In the same manner, it may affect but one nerve, and so produce a sciatica without attacking other organs or apparatus. In these cases the diagnosis will be confirmed if the patient has presented in a previous attack of clap symptoms of rheumatism, if the sciatica is not attributable to any diathetic or occasional cause, if its *début* was rapid and its height of intensity quickly attained, finally and chiefly, if it follows a rapidly decreasing march to disappear in the course of a few days.

With regard to treatment, gonorrhœal sciatica differs in a striking manner from ordinary sciatica, in the fact that it is otherwise accessible to the intervention of art. It is readily curable. Cupping and scarification has, in M. Fournier's practice, been attended with constant success. The performance of this is immediately followed by considerable relief, a second application is rarely required, and the pain is finally removed by the external application of narcotics. In conclusion, M. Fournier calls the attention of observers to a singular and but little known lesion which may in the course of gonorrhœal attacks be mistaken for sciatica. This is *acute hygroma of the ischiadic serous sac*, often associated with acute pains which are seated near the principal painful focus of sciatica, which frequently radiate, which are either continuous or marked by exacerbations, and which are exaggerated by pressure or movements. The tumor formed by the hygroma concealed in the depth of the soft parts, cannot be recognized without difficulty, and moreover, unless foreseen, is seldom sought for. Confusion in the diagnosis may readily take place, and without doubt this hygroma has often been confounded with a partial or limited sciatica. This lesion forms an addition to the manifestations of urethral rheumatism, which are already so many and so varied.

ART. 227.—*Case of Dislocation of the Hip-joint; Reduction without Pulleys.*

Under the care of Mr. Hulke, of the Middlesex Hospital.

(*The Lancet*, February 20.)

As is well known, the ordinary plan adopted when the head of the femur is dislocated upon the dorsum of the ilium includes the use of pulleys, by which traction is effected, whilst a perineal belt provides the counter-extending force. It was Dr. Reed, of Rochester, U. S. (according to Mr. Erichsen's *Surgery*, fifth edition, 1869), who introduced the process of "manipulation" as a means of reduction, without employing pulleys. In the following case, kindly furnished us by Mr. Norton, house-surgeon, this simple plan was immediately successful.

A woman, aged twenty-eight, was admitted into the Middlesex Hospital in July last, at midnight, with dislocation of the left hip and broken ribs, caused by a fall from a second floor window whilst drunk. The caput femoris was plainly felt on the dorsum ilii; the thigh was rotated inwards, and flexed at a right angle, the knee resting on the other thigh just above the patella. The injured thigh was half an inch shorter, and the distance between its great trochanter and the anterior superior iliac spine one inch greater than on the uninjuried side.

Complete muscular relaxation having been obtained with chloroform, the pelvis was firmly held down on the floor by a couple of assistants (the patient lying on her back on a mattress), while Mr. Hulke made traction of the thigh by a jack-towel clove-hitched above the knee, at first in a vertical direction

at right angles to the line of the trunk, and then flexing and adducting the thigh on the abdomen, the head of the bone slipped into the socket with a distinct snap.

ART. 228.—*On Excision of the Hip-joint.*

By JOHN ASHHURST, Jun., M.D.

(*Pennsylvania Hospital Reports*, 1869.)

1. "Excision of the hip-joint, for hip disease, has been performed more than twice as often in males as in females; a fact which can only be accounted for by supposing the disease to be more frequent among the former, and therefore probably generally originating from local external causes, to which the female sex is naturally less exposed than the male. Hence the numerical argument, *quantum valeat*, is in favor of the local origin theory of hip disease.

2. "The sex of the patient exercises little or no influence upon the success of hip-joint excision.

3. "The age of the patient, on the other hand, exercises a very important influence upon the success of the operation; the mortality rising from 25 per cent. between the ages of five and ten (the most favorable period), to 25 per cent. when the patient is more than thirty years old.

4. "The operation of excision of the hip has been performed with about equal frequency on either side of the body; it seems to have been rather more successful on the left side than on the right.

5. "Total excision has been at least as successful an operation as partial excision; hence the acetabulum should be freely dealt with, if its condition requires gouging.

6. "The preserved limb has been known to be useful in about one-third of the entire number of cases.

7. "In only one-fourth of the fatal cases has the operation itself been chargeable with the patient's death; of the various sequelæ of the operation, pyæmia has caused death more frequently than any other.

8. "The *immediate* risks of hip-joint excision are not as great as those of many other capital operations; only one-eighth of the whole number of cases having died within the first month.

9. "Amputation may be occasionally resorted to with advantage, when it becomes probable that the excision of the hip-joint is not about to be successful; and in some rare cases it is probable that hip-joint amputation might properly be proposed as a primary operation for the treatment of hip disease.

10. "Finally, excision of the hip-joint is to be recommended in cases of hip disease *in children*, where there is no reasonable prospect of a recovery under the ordinary modes of treatment. When the operation becomes necessary, it should of course be performed without delay; but in the case of this, as in that of every other important surgical procedure, the question of opportunity must be left to the judgment of the surgeon in each individual instance."

ART. 229.—*On the Indications and Contra-indications for Resection of the Hip-Joint in Cases of Caries.*

By R. R. GOOD, M.D.

(*De la Resection de l'Articulation Coxo-fémorale pour Carie*, Paris, 1869.)

1. *Favorable indications.*—The indications favoring the success of resection of the coxo-femoral joint are less numerous than the contra-indications; we will indicate summarily those which are the most plausible.

In the first place, it is proper to mention the absence of all organic disease, and the absence of any diathesic condition hereditary or acquired.

The duration of the disease ought to be taken into account; if it has been of long continuance, the patient, however robust he may have been at its commencement, will be worn out by insomnia, pain, the prolonged repose, and the

drain from suppuration. The nearer to the commencement of the disease the more opportune will be the period for operation, because the surgeon has then a chance of finding more energy in the patient's struggles for recovery. One ought to intervene when the articular abscess, opened externally, leaves behind it persistent fistulæ.

The restriction of the disease to the head of the femur would be a good indication, if the determination of this point were always possible. But all that has been written on the seat of fistulæ, in relation to the determination of the diseased parts of the osseous structures, is not true in all cases; and in diagnosis the surgeon can often depend but upon the duration of the disease, the head of the femur being the only part affected at the early periods, and the implication of the cotyloid cavity being always consecutive In a certain number of cases of fistula, multiplicity will lead one to suspect the extension of the disease to the iliac bone, if certainty cannot be acquired by a rigorous determination of the lesions by means of metallic sounds introduced into the fistulous passages.

Luxation of the hip is another favorable indication, post-mortem examinations having demonstrated that in cases of this kind caries had not attacked the cotyloid cavity which remained free from the head of the femur.

The most favorable age for the operation is from three to twelve years.

The progress of the disease may itself furnish indications. A slow progress is a favorable indication, whilst operations applied in cases of rapid coxalgia have nearly always had a lamentable termination.

The degree of acuteness of the lesion ought to be taken into consideration. Before operating it is proper to wait until the disease has passed into a chronic state; nothing should be attempted so long as the fever maintains some acuteness, and the periarticular parts are red, swollen, and very tender.

Hasty separation of the head of the femur is also a good condition for the operation, for this, in certain cases, has been capable of uniting with the cotyloid cavity, and preventing the invasion of the iliac bone by the disease.

2. *Unfavorable conditions.*—Phthisis ought to be placed at the head of the diseases the complication of which contra-indicates resection. The majority of surgeons have always been unwilling to operate upon patients presenting from the commencement traces of pulmonary tubercles. All authorities side in this opinion, which, moreover, is ancient. Observation has, in fact, taught that operations so severe as that of resection of the hip precipitate the march of phthisis, and induce its development in many cases in which it had not previously existed. Still, a number of English surgeons, Holmes, Erichsen, &c., profess that the cure of a lesion arrests in the majority of cases the march of pulmonary phthisis by removing its source which exists in the focus of suppuration and in the resulting exhaustion. Velpeau had advanced these ideas a long time previously; he had noticed cases in which, by removing a centre of suppuration seated in osseous tissue, he had at the same time arrested early but undeniable pulmonary lesions. It is necessary to remark, however, that he never dreamt of performing an operation of any gravity upon a subject affected with advanced phthisis. Recently we have learnt that Prof. Richet, on the occasion of an operation for resection of the knee performed on a young girl who had suffered from hæmoptysis which seemed to have been complementary to the menstrual discharge, revived the ideas of his old master. According to Richet, as to Velpeau, centres of osseous suppuration might, under conditions the action of which escapes us, induce the carrying of molecular particles into the lungs and provoke lesions of these organs. Cases have been observed by Richet in which the cure of the peripheric lesion, the cause of these pulmonary disorders, was followed by their complete disappearance.

Scrofula is an express contra-indication to any attempts at operation. Being the expression of a general condition it is not arrested in its progress by the bistoury; if cured at one spot it relapses at another and with greater gravity, as the suppuration which necessarily accompanies all bloody operations, by debilitating the patient, will render him more liable to the manifestations of the diathesis. Some few surgeons, among whom may be mentioned Bauer and Sayre, do not consider scrofula so much as a cause of coxalgia. Taking the

cause for the effect, they regard scrofula as a consequence of the articular lesion, and not as its active cause. With these surgeons traumatism plays the chief part in the malady. To admit these mechanical theories would be, in our opinion, to ignore completely the results of clinical experience. We think that to attempt resection on a scrofulous subject is to perform a very lamentable action. The most to be allowed with patients of this kind is the extraction of sequestra from fistulous openings or the modification of the surfaces of the wound, so as to diminish the abundance of the suppuration, and thus to prolong the life of the patients; in no case would it be proper to attempt a radical operation.

Exhaustion of the patient is also an express contra-indication. One or two cases of successful operations performed upon exhausted subjects may be cited, but it would be dangerous to depend upon an exceptional instance in attempting an operation almost constantly fatal under such conditions. The patient does not possess the necessary strength for bearing up against a renewed and increased suppuration, or for the reparation of tissues. It is never right to wait until this advanced period before attempting an operation; and this precept, it seems to us, has been disregarded in France by the majority of those who have performed resection of the hip, and we have no doubt that this is the cause of their want of success and of the resulting disfavor into which the operation has fallen. We are unable to adopt the opinion of Gosselin and Larrey, that the operation is especially indicated in the adult. The researches that we have made demonstrate that coxo-femoral resection, often followed by success up to the age of twelve years, has the less chance of success the more the period of its performance is advanced beyond this epoch of life. The surgeon cannot depend upon the exceptional case reported by Szcymanowski, who operated successfully on a patient aged fifty-eight years. A great extent of osseous lesions is also a contra-indication in the majority of cases. It will be impossible to destroy the whole focus of the caries, and to perform an incomplete operation is worse than doing nothing, for we do not share in the views of Bauer that caries of the cotyloid cavity will heal spontaneously after resection of the head of the femur. For us resection of the cotyloid cavity is the more indispensable, as the carious portion frequently masks an abscess of the pelvis. Implication of the cotyloid cavity is not, however, a contra-indication to the operation, as has been thought for a long time, and as many French surgeons still suppose; statistics prove that patients who had presented this lesion of the cotyloid cavity have completely recovered, and the number of cases is sufficiently great to enable one to form a decided opinion. But if the lesion be not arrested here, and if it have extended still farther to the pelvis, what will be the conduct of the surgeon? Erichsen has resected the ischium, and has had the good fortune to cure his patient; Sayre with like results has resected the pubis; and Syme has removed those two osseous portions from the same patient, who survived. But it would be imprudent to count upon success in analogous cases, and preferable not to operate if one cannot discover the extent of the disorders.

What is to be done when the caries extends towards the body of the femur? Mr. Gant removed five and a half inches of the upper part of this bone, and Spencer eight and a half inches, preserving at the same time the periosteum. Both patients recovered. But as a rule, if the femur be found affected over a great extent, it will be better to follow the example of Barnes and Henry Lee, who finished the operation by disarticulation.

Abscesses of the periarticular soft parts and purulent collections are not contra-indications in cases in which the inflammation is of slight intensity, for here the operation is the sole chance one has of giving a free exit to the pus and preventing inevitable death.

Abscess of the pelvis symptomatic of caries of the cotyloid cavity, which may form before as well as after perforation of the acetabulum, is not a contra-indication to the operation. Clinical reports furnish us with many examples of recovery under these circumstances. The diagnosis of pelvic abscesses is difficult before the operation; they remain inclosed within the pelvis and may open into the canals which traverse this osseous girdle, they never follow, how-

ever, the march of abscesses which are symptomatic of morbid changes of the psoas muscle or the vertebræ, which follow the course of the psoas muscle as far as its inferior insertion, or rather the sheath of the femoral vessels and that of the sciatic nerve. We have said before that implication of the acetabulum is not, in our opinion, a contra-indication. Patients in whom this cavity being in a state of disease has been scraped have made very good recoveries. But those surgeons who, following the proposition of Bauer, have been unwilling to destroy by any means the carious portions of this portion of the skeleton, have had to deal with persistent fistulæ, and have lost their patients. The pus taking origin in the cotyloid cavity or only from the inner surface of the side of the pelvis, accumulates between this bone and the outer surface of the aponeurosis of the internal obturator muscle; from thence it flows into the ischio-rectal fossa external to the levator ani muscle and anus, and finally opens near this natural orifice, constituting a variety of anal fistula; at other times the pus perforating the levator ani opens into the rectum and is expelled with the feces. The pus may find its way again into the urethral canal, as was observed in a case reported by M. Marzolin. It has also been seen to empty itself into the bladder and vagina. If, on the other hand, instead of flowing internally, the pus gains the superficial parts in order to open externally, it generally reaches the anterior or inferior iliac spaces. Mr. Hancock was among the first who directed attention to this point. He explained this point of election for the opening of the abscess by the position which the patients take during the evolution of coxalgia. By introducing a curved probe through this opening, one may easily reach behind and below the diseased acetabulum and feel crepitation. If, on the other hand, the abscess be symptomatic of a morbid change in the psoas, the probe can be passed only backwards and upwards in the direction of this muscle.

What should be the conduct of the surgeon when he has succeeded through different diagnostic means in making out perforation of the acetabulum and the existence of an abscess in the pelvis? If the pus infiltrated within the pelvis exposes the patient to peritonitis, as has been observed several times, it is better in our opinion to operate as Hancock did in a case which resulted in complete success. Several American and English surgeons have followed his example, and with good results. Barwell, in 1865, operated upon four patients presenting these serious complications, and out of this number had three with excellent results. These results serve for the encouragement of all those who wish to proceed in his footsteps.

ART. 230.—*On the Conservative Treatment of Gunshot Fractures of the Femur.*

By Dr. GRITTI.

(*Annali Universali di Medicina*, September; and *British and Foreign Med.-Chir. Review*, January.)

In a letter addressed to Professor Palasciano, Signor Gritti, Surgeon-in-chief of the Milan Hospital, adduces the experience of the late Italian war as corroborative of his views of the value of conservative surgery in gunshot fracture of the femur contained in a work on that subject published in 1866. This additional material consists of 49 cases observed carefully during the war of 1866. Other cases must also have occurred of which no notes have been procurable, for as the wounded amounted to 3619, the proportion of 2 per cent. of cases of fractured femur, exhibited by former statistics, would bring the total number of cases up to about 70. However this may be, here are the results observed in these 49 cases. In 1 the head of the femur was fractured and the patient recovered; in 5 the trochanters were fractured, with 5 recoveries; in 6 the upper third of the shaft of the bone was fractured, all recovering; in 15 its middle third, with 4 deaths and 11 recoveries; in 6 its lower third, with 5 recoveries and 1 death; in 11 cases the condyles were fractured, with 2 deaths and 9 recoveries; in 4 cases, all recovering, the seat of fracture was not specified. Thus, of the 49 cases, 41 recovered and 8 died. So favorable a result calls for

some detailed account, and this the author furnishes in a tabular statement of the particulars of each case as regards its treatment. Summing this up, he reports that in 30 of these cases, in which the conservative treatment was pursued throughout, there were 2 deaths and 28 recoveries; in 12, in which conservative treatment had to be supplemented by amputation, 6 died and 6 recovered; and 7 cases, in which amputation within 24 hours was performed, all recovered. Thus, while of 42 cases treated conservatively, 28 recovered, all those did so in which immediate amputation was performed. Dr. Gritti, however, notwithstanding the remarkable success attending the operation, believes that it should be confined within narrow and precise limits, and that its success on this occasion was much owing to the exceptional circumstances under which it was performed. The patients were treated in small hospitals, in a healthy and mountainous locality, and were furnished with a nutritious diet. The 42 cases treated conservatively, with and without consecutive amputation, furnished a minimum mortality of 19.04 per cent.; and a more intelligent application of the principles of this treatment will be followed by still more favorable results. The dispersion of patients which acted so beneficially in the Austrian and Prussian armies was not easy of accomplishment in Italy, where the patients requiring prolonged treatment were consigned to overcrowded hospitals situated in the centres of towns, and often fell victims to typhus or pyæmia. The extraction of foreign bodies was not performed so effectually as it ought to have been, while the means of transport of the wounded were defective.

After adverting to some of the cases in particular, Signor Gritti concludes by saying that the clinical facts observed during this war confirm the value of the conservative treatment of fracture of the femur, especially when this takes place at its upper part, which is just the contrary to what happens in amputation, this failing more and more the higher up the limb it is employed at. But in order to succeed in conservative surgery the surgeon must be thoroughly indoctrinated with its principles. His exploration of the wound also ought to be prompt and complete, so that he may at once decide whether conservative or demolitionary treatment should be resorted to. If the first is decided upon he should remove from the wound, making dilating incisions for the purpose if necessary, all foreign bodies and splinters; and then place the limb in an apparatus which at once secures its immobility and reduction, and allows of easy access to the wound. Had the surgeons employed in 1866 more exactly fulfilled these conditions they probably would have saved some lives by performing immediate amputation, while, in other cases, they might have avoided the too tardy extraction of foreign bodies, the development of phlegmonous and profuse suppuration, and perhaps some of the consecutive amputations.

ART. 231.—*In-Growing Toe-Nail: Hospital Out-Patient Practice.*

(*The Lancet*, May 29.)

Subjoined are notes upon the treatment of in-growing toe-nail from five well-known hospital surgeons, whose opinions will be read with interest and instruction.

King's College Hospital.—In slight cases of in-growing toe-nail—an affection which in the great majority of instances has its seat in the great toe only, and is caused by the lateral compression of the toe by the boot—Mr. Wood scrapes down the nail on the affected side until it is thin and yielding, like paper. The thickened skin overlapping the nail is then pared off with a sharp thin-bladed knife until it is close down to the raw, but not so far as to draw blood. A pointed stick of the nitrate of silver is then applied lightly to the painful ulcerated chink, and a small piece of lint, rolled so as to fit into the groove of the nail, is dipped in glycerine, and applied by means of a thin strip of adhesive plaster or small India-rubber band.

In cases where the mischief is the result of hypertrophy of the thick skin forming the lateral margin of the groove, and without any deformity in the shape or thickness of the nail itself, Mr. Wood pares off skin, under ether spray, to a level with the nail, and then applies the pressure as before by means of a small

roll of lint. If the toe-nail itself be broad, distorted, irregular, and bent laterally by the pressure, the best plan is to remove a triangular portion of the nail itself in the middle line, the angle reaching down to the centre of the nail. This allows the nail to fold up and accommodate itself to the limited space without digging in at the edges.

But if there be much ulceration, irritation, and distorted growth at the matrix of the nail itself—which in long-continued cases, and in scrofulous or syphilitic conditions of the system, is sure, sooner or later, to ensue—the only plan from which effective relief can be obtained is by the time-honored but excruciating process of division into the quick, down the nail itself at the inner third, and evulsion of the affected part of the lunula from the matrix. In doing so, it is important to get all that part of the root away entire, as a small portion growing up with an irregular angle will cause a speedy return of the disease. In all cases it is important also to regulate and ease the boot, during the renovation of the nail, that the skin should not again overlap and be forced down upon the edge, which always induces a return of the disease.

St. Mary's Hospital.—Mr. Norton never performs any operation in the treatment of in-growing nails. He applies, in the following manner, a solution of liquor potassæ (two drachms to one ounce). A piece of cotton wool is saturated with the solution, and pressed gently down between the upper surface of the nail and the soft tissues, which latter are usually in the form of a fungous mass of granulations. The solution permeates the substance of the nail, and softens and pulpifies the superficial cells. The wool is kept continually moist with the lotion, and the softened nail-tissue is wiped away each morning. The nail in a few days becomes thin and flexible, and if desired, can now be pared away without pain, or it may be allowed to remain for a few days longer, when it becomes entirely removed by the solution. Mr. Norton considers it most essential in the treatment that the lotion be continued until all ulceration has disappeared, otherwise the too early hardening of the epithelium becomes again a source of irritation, and promotes a return of the disease, or rather prevents a cure from being effected.

Of the several cases treated by this method during the past two years, one of whom suffered from in-growing nails on both great and both second toes, not one patient has returned to the hospital, and, therefore, Mr. Norton believes that in no case has there been a recurrence of the affection.

St. Thomas's Hospital.—Mr. Croft finds that, commonly, patients suffering from this disease do not come under his notice until the affection has been some time in progress. In such cases it is his practice to adopt the radical cure advocated by Dupuytren, which is to divide the nail lengthways, and turn out the in-growing half of the nail. In all but the hardiest patients he employs the ether spray to benumb the toe. He prefers to cut down the centre of the nail with a strong short scalpel, and then to raise the half-nail to be removed, by forceps (using the latter as a wedge), before plucking it from the matrix. In other cases he slits up the nail with scissors. He prefers this radical plan of treatment in advanced cases, because it saves the time of both the patient and surgeon, and because other plans include, besides time, frequent skilled dressings, of which poor people are rarely capable. In an early stage, Mr. Croft cuts out the in-growing corner of the nail, cauterizes the granulations deeply with nitrate of silver, places a small pad of lint off the cauterized spot, and then, by means of a long narrow strip of plaster winding round the toe from the unaffected side, fixes the pad firmly in its place, at the same time directing its pressure *from* the nail. Under this treatment, well carried out, he finds cicatrization soon takes place. Absolute rest is enjoined. The nail requires to be kept carefully trimmed.

University College Hospital.—Mr. Christopher Heath has never seen any good result from paring the centre of the nail, or applying caustic to the exuberant granulations overlying its margins. He has always found the simplest and most satisfactory method of treatment to be, to take a narrow slip of the nail away with the scissors and forceps, taking care to extract the whole depth of the nail, which is not always easy, owing to the sodden condition in which the tissue has been kept for a length of time, by which it is ren-

dered very friable. When the edge of nail thus extracted is examined, it almost always presents a rough serrated margin, and it is this which causes the irritation. After the removal of the source of irritation the use of careful dressing, with lint gently pressed down by the side of the nail, is necessary to repress the granulations, and the use of a lotion of nitrate of silver or sulphate of copper (two grains to the ounce) has been found very advantageous. Mr. Heath finds it necessary to warn patients who have suffered from in-growing nail to wear wide-toed boots, and to keep the sulcus between the nail and the flesh clear of epithelium. They should be careful also to apply for relief the moment they feel uneasiness from the nail, when a perfectly painless removal of a small portion of the nail prevents further mischief.

In inveterate cases, where the nail and toe are deformed, the former being very much in-curved, Mr. Heath recommends the removal of a slip of nail on each side, and the destruction of the corresponding portions of matrix, under chloroform, either by removal with the scalpel, or the application of the actual cautery. This lays the patient up for a few days, but effects a permanent cure. Mr. Heath believes that it is never necessary to remove the entire nail, by splitting and evulsion, as is often recommended.

Westminster Hospital.—Mr. Francis Mason has had under his observation at this hospital during the last few months an unusually large number of cases of in-growing toe-nail. Mr. Mason believes that the plan ordinarily recommended of cutting the toe-nails as we do the finger-nails—that is, of rounding their corners—often induces the condition it is intended to obviate. He has generally found that the so-called in-growing toe-nail has been primarily caused by injury in trimming the nail. Too much of the corners is removed, and a sensitive and occasionally a bleeding surface is left. The patient will soon after perhaps wear a tight boot, or possibly may take a long walk. In the act of walking, the tender surface is pressed up against the slowly-growing nail, causing increased irritation, and giving rise to those painful granulations invariably seen, in different degrees, in such cases. Mr. Mason therefore advises that the free edge of the toe-nail should be cut square. Respecting the treatment of in-growing toe-nail, the plan which Mr. Mason has most confidence in is this: A sharp-pointed stick of solid nitrate of silver is applied with some vigor to the base or under-surface of the painful granulations, and a small piece of dry lint, or lint dipped in black mercury lotion, is then carefully inserted, and the whole toe surrounded with water dressing. An astringent or other lotion, according to circumstances, may be subsequently employed. The highly sensitive surface is thus destroyed, and the patient is enabled to attend to his business in comparative comfort. Such a plan of treatment has been found uniformly successful in Mr. Mason's hands, and he believes that occasional apparent failures are due to the method not being thoroughly carried out. It should be remembered that it is useless merely to touch the surface of the granulations with the caustic; the base is the part to be attacked. If the operation be efficiently performed, it is doubtless attended with considerable pain for the moment; but the pain is reduced to a minimum by the use of the ether spray, and especially if the caustic be well pointed, instead of being, as so often happens, broad or angular at the extremity. Evulsion of the nail is seldom required for this condition, being more suitable—indeed necessary, combined sometimes with the free application of the strong nitric acid—in cases of disease of the matrix, questionably entitled "onychia maligna," which is not unfrequently met with on the fingers of unhealthy and ill-fed children.

PART III.—MIDWIFERY.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

(A) CONCERNING PREGNANCY AND PARTURITION.

ART. 232.—*On the Mask of Pregnant Women: Ephelis.*

By M. D. JEANNIN.

(*Gazette Hebdomadaire*, No. 47, 1868.)

Quæ utero gerunt in facie maculum habent quam ἐφηλὶν *vocant.* Since this remark of Hippocrates, the word ephelis has often been used to designate the particular tint with which the face of some pregnant women is spotted. Unfortunately this was not the only application of the name. Hippocrates had already described under the same title of ephelides, the spots produced by the action of the sun; and at a later period pathologists gave this name to all the cutaneous colorations attributed rightly or wrongly to luminous or calorific rays. The introduction of the term *hepatic spots*, and the distinctions made by Alibert, did not elucidate this matter. The word chloasma was then brought prominently forwards; distinction was made between the chloasma of pregnant women and the cachectic chloasma; and this latter term, by the irregular applications which were made of it, contributed in its turn to maintain the confusion of tongues. The discovery of epidermophytes excited the hope that light had finally been cast upon the wide field of dermatoses; and it has done so with regard to a certain number of questions, but as yet has not added very much to the chapter of the cutaneous affections of women. M. Bazin, and many others with him, consider the mask as an epidermic lesion due to the presence of the *microsporon furfur*. M. Cazenave looks upon it as an ephelide, that is to say, a pigmentary alteration. M. Hardy, less exclusive and probably more just in his appreciation, proposes that the affection may be sometimes an ephelide, at others a parasitic affection.

Parasitic or not, how is the formation of the mask to be explained?—how can he explain its disappearance after delivery?—its continuation for a shorter or longer period afterwards, or even its reappearance when the female is not again pregnant? The partisans of the parasitic theory reply that the fungus, which had found favorable conditions for its development, does not fail to disappear when those conditions exist no longer. They may add that the fungus will reappear whenever the favorable conditions are renewed, &c. All this explains nothing, for what are these conditions? or, in default of a peremptory explanation, what is the morbid condition to which the affection can be attributed in cases where pregnancy does not exist? What is the function the disturbance or suspension of which predisposes to chloasma, or at least coincides with it? "One has observed," says M. Rayer, "women who have been thus affected for several weeks; when the tint has been intensified at the menstrual epochs, then these spots arise and disappear without sensible desquamation of the epidermis. Several pathologists have designated, under the name of chloasma gravidarum and of chloasma amenorrhœa, similar spots, the appearance of which coincides with the appearance and the suppression of the menses." Here we have an observed fact,—distributed or suppressed menstruation.

In support of this fact M. Jeannin has published the following observations, which demonstrate, he hopes, that there exists a close relation between menstrual disturbances and the pathological coloration which is called *the mask of pregnant women.*

In order to specify directly the various circumstances in which the mask has

been met with, M. Jeannin has distributed the cases in a certain number of series. One or two typical cases are reported of each particular class, and the number then given of the analogous cases which M. Jeannin has observed. In his enumeration of facts the author proceeds from simple to compound cases, from the frequent instances in which the relation between the mask and the state of the menses is evident, to those in which this relation seems to be less striking.

The following are the conditions that have been observed by M. Jeannin, and are illustrated by cases in his contribution.

1. Evolution of the mask during the pregnancy of a woman who was favorably delivered and did not suckle her child, and its rapid removal at the return of the menstrual epochs, two months after the lying-in.

Of this condition thirteen cases have been observed by M. Jeannin.

2. No return of the menstrual epochs until six months after delivery in a woman who did not suckle her child; persistence of the facial coloration up to the time of renewed menstruation.

Of this condition three cases have been observed.

3. After a normal delivery a woman did not suckle; at the return of the menses the mask disappeared. Some months later the menses were suppressed after mental excitement, and cure not renewed in the normal condition for eighteen months. The mask reappeared at the time of the suppression, and remained until the woman was restored to her normal condition.

Two cases observed.

4. Evolution of the mask in a woman who suckled her infant and had no menstrual return during lactation. Persistence of the coloration during this period.

Three cases observed.

5. Disappearance of the mask on the return of menstruation during lactation.

Two cases observed. M. Jeannin has been assured by many women that the freckles and milk spots have always disappeared very rapidly when menstruation returned during the period of lactation.

6. Disappearance of the mask in the course of a prolonged lactation. No return of the menses after weaning. Reappearance of the mask.

Cases in which the mask did not depend upon the pregnant condition.

7. The mask associated with amenorrhœa in women who had not conceived.

Two cases observed.

8. The mask determined by dysmenorrhœa in young girls who had not conceived.

Three cases reported.

9. Obstinate facial coloration in a woman whose menstruation was performed regularly, with very marked diminution of the mask at each menstrual epoch.

One case observed.

M. Jeannin believes that these cases will serve to establish his view that, in the majority of instances if not in all, the mask of pregnant women, considered as a parasitic affection by some, a pigmentary affection by others, and an affection both parasitic and pigmentary by a third school, is influenced by disturbances or by suspension of the menstrual discharge, that is to say, a physiological hemorrhage.

This contribution is offered as a kind of introduction to a more considerable work which M. Jeannin hopes to publish soon, and in which he will endeavor to demonstrate by facts the curious relation which exists between a singular coloration of the face and the absence of hemorrhage in a malady commonly and generally accompanied with serious bleeding.

Art. 233.—*On the Direction of the Uterus in the Adult Female.*

By M. Panas.

(*Archives Générales de Médecine*, No. 3, 1869.)

The following have been derived from M. Panas from clinical researches made on 114 women admitted into the Hôpital de Lourcine:—

1. Anteflection, in varying degrees, is a physiological condition in nearly half the cases.
2. An unbent uterus, that is to say, one fairly perpendicular to the plane of the inferior outlet of the pelvis, does not, when considered as a strictly physiological phenomenon, represent one-third of the cases.
3. Of all changes in the position or the direction of the uterus, those backwards, as retroversions or retroflections, are the least common, and have on that account a greater pathological significance.
4. It is very likely that the uterus tends from the age of puberty to become straightened with increase of years.
5. Very early menstruation coincides with flexions, whilst late menstruation is met with in a straight position of the uterus.
6. In a general fashion, the menses present greater irregularity in uterine deviations than in a straight position of the organ.
7. The calling of the woman seems to exert no influence upon the direction of the uterus.
8. The inflexions and inclinations of the uterus, which may be designated as physiological, present the peculiarity that they are but slightly marked in more than one-half of the cases.

ART. 234.—*On Improved Methods of Inducing and Accelerating Labor.*

By ROBERT BARNES, M.D., Lecturer on Midwifery, &c., St. Thomas's Hospital.

(*St. George's Hospital Reports*, vol. iii.)

The conclusions from the histories of the cases related by Dr. Barnes may be summed up in these propositions:—

1. In induced premature labor the accomplishment of delivery is extremely uncertain as to time.
2. This uncertainty involves danger to the mother and child.
3. The immature condition of the uterus often entails defective contractile power and increased resistance to the passage of the child.
4. Hence it is desirable to aid the dilatation of the cervix, and to supplement the contractile power, to watch and control the course of labor throughout, and to bring it to a termination within a definite period.
5. This aid can be afforded safely and beneficially by the cervical water-dilators, and by the forceps and turning.
6. By the proper use of these accelerative means children may be saved which would otherwise in all probability perish.
7. In the management of cases of placenta prævia these accelerative means are of eminent value.
8. Labor may always be completed with safety within twenty-four hours.

ART. 235.—*The Induction of Premature Labor.*

By ROBERT BARNES, M.D. Lond., Fellow and late Examiner in Midwifery at the Royal College of Physicians; Obstetric Physician and Lecturerer on Midwifery and the Diseases of Women and Children at St. Thomas's Hospital.

(*Medical Times and Gazette*, March 6.)

The plan Dr. Barnes has successfully practised for some years is the following: First, overnight pass an elastic bougie six or seven inches into the uterus, coil up the remainder of the instrument in the vagina; this will keep it *in situ*. Next morning some uterine action will have set in. In the afternoon, at an appointed time, proceed to *accelerative* measures.

Before rupturing the membranes, adapt a binder to the abdomen, and let

this be tightened, so as to keep the head in close apposition to the cervix. This will often prevent the cord from being washed down by the rush of liquor amnii. Dilate the cervix by the medium or large bag, until the cervix will admit three or four fingers. Then rupture the membranes, and, before all the liquor amnii has escaped, introduce the dilator again, and expand until the uterus is open for the passage of the child. If the presentation is natural, if there is room, and if there are pains, leave the rest to nature, watching the progress of the labor. If these conditions are not present, and one or other is very likely to be wanting, proceed with accelerative methods—that is, to the forceps or turning, or, in cases where the passage of a live child is hopeless, to craniotomy. By pursuing this method we may predicate with great accuracy the term of the labor. Twenty-four hours in all—counting from the insertion of the bougie—should see the completion of the labor. The personal attendance of the physician during two hours is generally enough. The mode of proceeding must vary according to the conditions of the case.

ART. 236.—*On the Induction of Premature Labor.*

By JOHN BRUNTON, M.A., M.D., L.F.P.S.G., Surgeon to the Royal Maternity Charity, London.

(*Glasgow Medical Journal*, February.)

Dr. Ramsbotham says "that the only positively sure method of inducing premature labor consists in the destruction of the integrity of the ovum. When this is effected, the process of gestation is certainly interrupted, and that of labor soon commences."

There are other methods, Dr. Brunton writes.

1. The continued administration of ergot of rye and oxytoxic agents, which act through the system on the uterus.

2. Those which act reflexly, such as galvanism, irritation and manipulation of the mammæ, which are so uncertain that they will be passed over.

3. Those which act on the cervix uteri and membranes—Barnes's dilating bags, and Simpson's tents.

4. Kiwisch's injection of warm water into the vagina.

5. Those which act on the cervix and cavity of the uterus—Hamilton's and Simpson's. The former separates the membranes with the finger, the latter by a sound or bougie.

6. Cohen's and Simpson's method of separating the membranes at the cervix by injection of warm water.

7. Professor Lazarewich's (of Kharkoff), which has been adopted in the cases recorded by Dr. Brunton.

It is of the utmost importance in such cases that the process of labor should go on as nearly as possible in a manner like the natural—begin, continue, and terminate "as quickly, commodiously, and inoffensively as possible to the mother and child," and at the same time, *with as little trouble as possible to the medical attendant:* in other words, that the mother should suffer as little as possible, and that the practitioner be put to just as little as possible trouble.

Now, look at the means usually employed. With one exception, those of Simpson (separation of the membranes by the bougie), they are a source of anxiety and trouble to both patient and practitioner.

If we take the case of rupturing of the membranes, often days elapse before labor sets in, the contraction of the uterus often by its pressure killing the child, while the suffering of the mother is excessive, on account of the difficulty of dilatation of the os uteri, produced by want of nature's dilating bag.

In Professor Hamilton's method, viz., the separation of a portion of the decidua from the cervix uteri, by insinuating the finger within the os, and detaching the membranes, gently dilating at the same time, "if we have not thought it prudent to dilate at once, . . . we may repeat the dilatation in a few hours, . . . and it may be necessary, if the os be high, to *have the hand introduced into the vagina.*" This process is tedious, very painful to the

mother, and often failing, has to be followed by puncture of the membranes, thereby bringing the case into the class before mentioned. In dilating with sponge tents and bags, as one dilates another has to be introduced, the patient being kept on her back—a constant repetition, alike troublesome and irksome to patient and practitioner. While, as regards the sponge tents, independently of their difficulty of insertion, they act "as a foreign body, and produce such a degree of local uneasiness and irritation as to inflict no small amount of discomfort and continuous pain upon the patient."

Kiwisch's plan of injecting a continuous stream of tepid water against the cervical part of the uterus requires to be done night and morning, and usually on the "fourth or fifth day" labor supervenes—a process easy, irksome, and often failing.

Cohen's and Simpson's injections of warm water into the cervix uteri, to detach the membranes, though successful, are open to the same objections as Kiwisch's. Professor Simpson says "the injection may be repeated *twice a day or oftener*," "*but the repetition of the injection sometimes becomes irksome to the mother as well as the accoucheur.*"

Of Simpson's other method, viz., the separation of the membranes by the introduction of a sound or bougie, easy as it is to the patient, we are told, "in all cases a single introduction of the bougie will by no means suffice; like the tents and douching, it requires, in most instances, to be repeated more than once." Besides, there is danger of rupturing the membranes in the rotation of the bougie or sound.

Professor Lazarewitch, from experiments, has concluded that the fundus uteri is thickest, is most supplied with sentient nerves, and therefore is most irritable. On these grounds he is of opinion that if any condition of the uterus can be brought about which is similar to that which occurs at the full term of pregnancy (when labor sets in), such a condition will induce labor. It is well known that at the full term, when labor sets in, there is a separation of the ovum from the uterus. The membranes that hitherto were adherent become detached more and more till delivery takes place. On this account Professor Lazarewitch directs that premature separation of the membranes should be produced at that part of the uterus which is most sensitive, viz., the fundus and body, and this is accomplished by the injection of a stream of warm water between the membranes and the uterine wall, up towards the fundus uteri. The instrument he employs is a metal syringe to which is attached an elastic canula, with a wire in it. The syringe being filled, the canula is passed well up between the membranes and uterine walls. Six ounces of warm water is to be steadily injected, taking great care that no air be introduced. The stream is directed towards the fundus, separating the membranes as it advances. That the water reaches high up is known by the expression of the patient who feels it rushing up above the navel. Of course it is necessary to diagnose the position of the placenta, in case artificial separation of the placenta should result and an awkward complication ensue. He states that the nearer the water goes to the fundus, and the greater the separation of the membranes, the sooner labor takes place. Professor Lazarewitch's narration of cases in the volume of *Obstetrical Transactions* (London) for 1867 is exceedingly good and satisfactory. These cases are twelve in number.

In the cases narrated by Dr. Brunton, the apparatus used was very simple, and the whole operation took from five to ten minutes. The apparatus consists of an ordinary India-rubber enema syringe, with central ball and valves; the bone rectum-piece being removed, a gum-elastic canula, with one opening at the end, and without a wire, of No. 10 size, is substituted. The directions for operating are—Place the patient on her left side, with the pelvis near the edge of the bed on which she lies; put a basin containing a couple of quarts of warm water (80° to 90°) conveniently and immediately below, to catch the water which flows away, and serve at the same time for injecting. Fill the syringe, by placing both extremities in the water, squeeze the ball two or three times, till all air is expelled, and then put *a small piece of beeswax* softened in the water, into the mouth of the canula (in the water), so as to prevent any of the water from running out, when the canula end is removed for introduction into the

uterus. The canula can now be passed up for six or eight inches into the uterus anteriorly or posteriorly, as the case may be, and the injection commenced. Of course, it is obvious that the other end of the syringe must on no account be removed from the water, else air would pass into it and be injected. The injection is carried on till about a pint or pint and a half of the water is injected; the water first injected usually returns immediately, and is caught by the basin—the rest remains in utero for a few minutes, and gradually comes away with a slight discharge of mucus and blood. It is advisable for the patient to rest for half an hour or so, to allow the water to drain gradually away; after that, she can get up and go about her household duties.

Labor sets in directly in some cases, and in others as late as twenty-five hours after.

Art. 237.—*The Cæsarian Section.*

By Robert Barnes, M.D. Lond., Examiner in Midwifery at the Royal College of Surgeons.

(*Medical Times and Gazette*, December 12, 1868.)

The most frequent condition that renders the Cæsarian section necessary is *deformity with contraction of the pelvis*. The operation is justified whenever the contraction is such as to render it impossible to extract a dead child through the natural passages. This may be stated at 1.75″ conjugate diameter and below, at the higher limit of 1.75″ coming into competition with craniotomy. Cases may also occur in which a conjugate diameter of 2.00″ may call for Cæsarian section if the pelvis is much distorted, so that the diagonal and transverse diameters offer insufficient compensation for the narrow conjugate.

The most frequent form of distortion calling for the Cæsarian section is that which arises from osteomalacia. In malacosteon the sides of the triangle forming the brim of the pelvis are all pressed inwards, and are more or less convex. The result is that the brim is practically divided into two parts, neither of which is available for the passage of the head. Rickets also will sometimes produce a pelvis that will leave no alternative. The slipping down of the lumbar vertebræ—spondylolisthesis—into the pelvic cavity, if to any great extent, leaves no other resource. (See a memoir on this subject, *Obstetrical Transactions*, 1865, by Robert Barnes.)

The next most frequent causes are tumors of various kinds growing into the pelvis, such as bony or malignant tumors springing from the wall of the pelvis; tumors of the ovary descending into the pelvic cavity, and getting fixed there. Dr. Sadler of Barnsley has recorded a case (*Medical Times and Gazette*, 1864) in which the operation became necessary from the pelvis being filled up with an enormous *hydatid cyst* springing from the liver. Other exceptional causes, chiefly remarkable on account of their extreme rarity, have been observed. Atresia of the cervix uteri and vagina may be so extensive and unyielding that the Cæsarian section may be less hazardous than the attempt to open up a canal through the cicatricial tissues.

We are sometimes driven to the operation after having exhausted other modes of proceeding—for example, when craniotomy may have failed to deliver. It is a remark of Dr. Radford that most of these cases are progressive in their character.

The Cæsarian section, or rather gastrotomy simple, is indicated in certain cases of rupture of the uterus, when the child cannot be extracted with advantage through the pelvis.

It is resorted to when the mother has died undelivered, in the hope of rescuing the child. In this way several children have been saved. The success, of course, will depend greatly upon opening the uterus very soon after the mother's death.

The chance of preserving the child by the Cæsarian section post-mortem will be much influenced by the circumstances of the mother's death. If she dies by sudden injury, the child may survive a little longer. If she dies from hemor-

rhage or rupture of the uterus, the child's death is likely to have preceded that of the mother. If she dies from phthisis or other gradually exhausting disease, the child may survive some minutes.

A condition which has several times led to the Cæsarian section has been *disease, mostly malignant of the lower segment of the uterus*, preventing its due dilatation. In this case, the opportunity is commonly presented of inducing labor or abortion. The conditions of choice are often perplexing. If labor be induced before seven months, the prospect of a viable child is small, but the uterus may be able to dilate sufficiently without injury. On the other hand, the life of the mother is probably doomed to be of short duration from the progress of her disease. Any injury to the diseased structures, as even by premature labor, is liable to accelerate her death. Is it not then better, both in her interest and in that of the infant, to let things go on to the natural term of gestation? She may live two or three months longer, and the child will undoubtedly have a better chance.

What is the best time to select for the operation?

1. Sometimes, of course, all choice is denied us, or the range of time offered is extremely limited. If called to a woman in labor at term, and under the conditions assumed to require the operation, it ought to be performed without delay. There is, if possible, greater reason than in conditions requiring other less formidable proceedings, to anticipate the exhaustion and local injury that follow upon protracted labor. It is a misfortune, tending fatally to compromise success, to be obliged to operate when the system is prostrated; when the structures that have to be wounded are so worn and injured that the power of reaction and repair is seriously reduced; and when the blood is deteriorated by the products of nervous and muscular overwork. It is, then, a clear indication to operate early in labor.

2. If the patient come under observation early in pregnancy, we have the double opportunity of considering the propriety of inducing labor, with the object of avoiding the operation, and of selecting the time for its performance should it be unavoidable. Is it an advantage to operate during labor?—that is, does the process of labor conduce to the success of the Cæsarian section? Amongst Continental practitioners, and indeed generally here, the Cæsarian section being regarded as a mode of delivery, it is held to be a primary indication to respect the laws of parturition, and to enlist the natural powers in our aid as much as possible. It has been therefore almost universally considered proper, in cases where the ultimate necessity of resorting to the Cæsarian section is recognized, to postpone the operation until the advent of labor. It is presumed that the epoch which nature fixes for labor is that when the most favorable conditions for the process and for the recovery are present. The whole organization is better prepared, and the uterine muscles having acquired their highest stage of development, and contraction having actually set in, it seems reasonable to anticipate that the wound made in the uterus will close better, and that the necessary changes attending delivery will be more safely carried out.

Dr. Ludwig Winckel (*Monatsschrift für Geburtskunde*, 1863), whose experiance in this operation is the greatest, says the most favorable time is the end of the second stage of labour, when the membranes are ready to burst. He advises not to rupture the membranes. The escape of liquor amnii into the abdomen does no harm, and the extraction of the child is more easy if the membranes are kept entire until the moment of seizing the child.

But admitting spontaneous labor at term to be a favoring condition, may not labor induced artificially before term be an equally favorable condition? The arguments in support of the affirmative deserve attention. Dr. Braxton Hicks brought on labor a fortnight before term as a preparation for the Cæsarian section, influenced by the opinion that by so doing the uterus, taken at a period prior to the highest degree of degeneration of its muscular fibres, would heal better. Dr. Barnes is not disposed to think that the degree of fatty change observed in the mature uterus is any impediment to reparation. There are, at any rate, too many examples of complete repair after section by the knife, and even after rupture, to admit of a doubt that the mature uterus is in a condition not un-

favorable for the operation. On the other hand, it cannot be doubted that the uterus at seven or eight months is also capable of complete repair after injury. We may, then, very properly consider whether, assuming things to be equal, *quoad* the uterus, there may not be other circumstances that may rightly turn the scale in favor of premature delivery. Such, Dr. Barnes thinks, do exist. For example, if we wait for the advent of natural labor, we may be called upon to operate in the middle of the night, and surrounded by many difficulties, all concurring to lessen the prospect of success. By selecting our own time we may have daylight, the assistance of colleagues, and every appliance that may be thought useful.

The best time to select then would be as near the natural term of gestation as possible, and this may be determined approximately by taking some day in the estimated last fortnight of gestation.

Then comes the question, shall we start labor before operating, or proceed to the operation at once without exciting any preparatory action of the uterus? Dr. Barnes thinks the preponderance of reason is in favor of operating upon a uterus already in the act of labor. The *first step* will be to pass up an elastic bougie into the uterus overnight. This will excite some degree of uterine action. Next day, the hour of operating being fixed, say for 1 P.M., we may in the morning ascertain to what extent labor has proceeded. If the os uteri is not open more than enough to allow a finger to pass, it will be useful to dilate it a little more with the caoutchouc bag No. 2. This will of course induce further contraction of the uterus, and secure one most desirable object—namely, a free outlet for liquor amnii and other discharges by the natural passages.

The labor then being started thus far, we are ready for the operation. The question between general and local anæsthesia arises. In all abdominal operations the vomiting so liable to attend or follow chloroform is a serious drawback. The violent straining is apt to open the uterine wound, to stretch the abdominal wound, to destroy the "rest" which is such an important condition of repair, and thus to compromise the success of the operation. The ether spray is at least free from this objection; and possibly further experience will show that it ought to be preferred.

ART. 238.—*The Cæsarian Section: the Operation: the Instruments and Assistants.*

By ROBERT BARNES, M.D. Lond.

(*Medical Times and Gazette*, December 26, 1868.)

The *instruments* required are: 1. A sharp bistoury. 2. A bistoury having a blunt end. 3. A director such as is used in ovariotomy. 4. A large probang armed with sponge. 5. Artery-forceps and ligatures in case of bleeding from the abdominal wound. 6. New sponges. 7. Ice. 8. Two powerful apparatuses for inducing local anæsthesia by congelation or chloroform. 9. Silver or silk-sutures for uterine and abdominal wounds. 10. Lint. 11. Many-tailed bandage and adhesive plaster.

Assistants.—Skilled assistants should stand one on each side of the patient. Another should be free to hand instruments, and assist in sponging, &c. A nurse or two to help will complete *the necessary staff.*

Preparation.—The bowels should be emptied by castor oil or by enema on the morning of the operation.

THE OPERATION.

Position.—The patient is laid on a table on her back, with the head and shoulders slightly raised. The operator stands on the patient's right; an assistant stands on each side.

The *catheter* is introduced to empty the bladder. If the case be one of osteomalacia, explore for the last time carefully to ascertain if the pelvis can be opened up by dilatation by the hand. In this way, twice at least, the operation has been avoided.

In cases of great distortion, the uterus is not seldom found considerably displaced. When there is great prominence of the sacral promontory, and squatting of the chest down upon the flanks, the uterus is necessarily thrown much forward, sometimes so as to overhang the symphysis. With this there is occasionally marked lateral obliquity; and, what is less common, but still likely, a twisting of the uterus on its long axis, bringing one of its sides to look more or less forward.

It is also desirable to take note, by auscultation, of the seat of attachment of the placenta. Assistance may also be obtained by laying the hand flat on the uterus, when, if the walls are thin, a peculiar thrill or vibration marks the seat of the placenta, which is confirmed by feeling the part bulging a little, as if a segment of a smaller globe were seated on a large spheroid. This has been pointed out by Dr. Pfeiffer (*Monatsschr. f. Geburtsk.*, 1868).

The uterus is then brought into proper relation with the linea alba, so that the two incisions may correspond, unless it be found that the placenta can be avoided by cutting a little on one side of the median line. The abdominal incision is best made in the *linea alba*, extending from below the umbilicus to within about three inches of the symphysis pubis. When nearly through, it is desirable to get a finger through a small opening, and, using this as a director, to cut from within outwards, so as to avoid scratching the uterus. The assistants support the abdominal wall on either side, looking out to prevent the escape of intestine. The *uterine incision* is made in the middle line, sparing the fundus and lower segment as much as possible, as these parts are not well adapted to close by contraction. Circular fibres predominating near the cervix tend to make the wound gape. A manœuvre described by Winckel, and forced upon him by his being often called upon to operate with insufficient assistance, here deserves attention. An assistant hooks the forefinger of each hand in the upper and lower angle of the uterine wound, and, lifting them up, fixes them in contact with the corresponding angles of the abdominal wound. This shuts out the intestine effectually, and tends to prevent the blood from running into the abdominal cavity.

If the placenta is found directly behind the wound, the hand of the operator is insinuated between the placenta and the uterine wall, detaching it until the edge is felt, when the membranes are pierced, and *the child is seized by the feet.* This point Dr. Barnes prominently emphasizes, because he has seen a surgeon pull at the arm and fail to extract the child. Sometimes the neck is tightly grasped by the uterine wound. If the constriction does not soon yield, it is better, says Scanzoni, to extend the incision than to drag overmuch, lest the wound be torn.

When the child and placenta are removed, attention is required to watch the bleeding; this generally takes place from the cut sinuses in the uterine walls, less frequently from the inner surface from which the placenta has been separated. Hemorrhage is best checked by direct compression of the uterus with the hand; if the uterus contract well, the hemorrhage ceases. Ice may be applied to the wound, and a piece placed in the uterine cavity.

Before closing the wound, *thrust the probang through the os uteri and vagina,* to make sure that the natural passages are clear for the discharges from the uterus.

The Closure of the Wound.—When the bleeding has ceased, and any blood that may have found its way into the abdomen is removed, we have to consider the question of applying sutures to the uterine wound. It is a matter of observation that in many fatal cases the edges of this wound have been found flaccid and gaping. But in the majority of, if not in all, these cases the operation had been performed on women exhausted by protracted labor; and, on the other hand, in women operated upon at a selected time, when the powers are unimpaired, the uterus commonly contracts well. Winckel says he has never lost a case from hemorrhage, and has not stitched the uterine wound. Mr. Spencer Wells has had a successful case in which he used a long piece of silk as an uninterrupted suture, leaving one end hanging out through the cervix and vagina. By pulling on this end the suture was removed after several days.

Another mode of suture would be to carry the same suture through the

uterine and the abdominal walls, so as to secure adhesion between the two parts. A serious source of danger is from vomiting: the straining and relaxation attending this accident tend to promote the opening of both wounds, and to force the discharges through them. This risk would be lessened by uterine sutures. Upon the whole the case may be stated thus: If the patient is operated upon at a selected time, if the danger of vomiting is lessened by not taking chloroform, and if the uterus contracts well during the operation, the sutures may be dispensed with; but under the opposite circumstances, it would be better to stitch the uterus as was done in Mr. Spencer Wells' case.

Closure of the Abdominal Wound.—The methods adopted in ovariotomy may be followed. Dr. Barnes is inclined to prefer the uninterrupted silk suture. Winckel's cases were closed by the more common method of interrupted sutures, with intermediate skin sutures. The important point is to *close the wound completely.*

After-treatment.—A full dose of opium should be given immediately, either in form of pill or suppository. Light nourishment and perfect repose are the things to be observed. The dressings should not be removed for five or six days. To obviate foulness, sprinkling with Condy's fluid or weak carbolic acid may be resorted to. The sutures may be removed on the seventh or eighth day. The bowels may be relieved by enema on the fourth or fifth day.

ART. 239.—*The Cæsarian Section; the Dangers of the Operation and Prognosis.*

By ROBERT BARNES, M.D.

(*Medical Times and Gazette,* December 26, 1868.)

"The principal risks run are as follows:—

"1. If the operation is performed as the last resource after protracted attempts to deliver by other means, the woman is liable to sink from shock and exhaustion within a few hours; or if she survive beyond a few hours, there is the risk of hemorrhage, of peritonitis, and of puerperal fever. It may be said that the prospect of recovery, when the operation is performed under these circumstances, is very small.

"2. If the operation is performed at a selected time, the woman escapes the shock attendant upon the protracted labor, and encounters the shock of the operation with unimpaired strength. Still, the shock is very great, and is not seldom fatal *per se.* This is the first and most pressing danger. Could it be in any way modified or controlled, the Cæsarian section might be undertaken with more confidence. But shock necessarily attends all severe abdominal injury. It affects different persons in different degrees. Nor can we readily predicate of any given person that she will bear shock well or badly. It is an uncertain element, and must probably ever perplex all calculation as to the result of the Cæsarian section in any particular case. I do not think that chloroform materially lessens the shock; and it adds the danger of vomiting.

"3. The next danger is *hemorrhage;* and as hemorrhage is often associated with prostration as cause and as effect, the danger is serious. This may come on within a few hours. It might be expected that hemorrhage would be liable to come from the inner uterine surface, as after ordinary labor, but the more common source is probably from the sinuses divided in the uterine wound. The quantity lost may be enough to cause a fatal anæmia. But the more common evil is from the irritation caused by the blood collecting in the abdominal cavity giving rise to—

"4. *Secondary shock* and *peritonitis.* That secondary shock precedes peritonitis I have no doubt. Intense pain, even tenderness on pressure, rapid small pulse, accelerated and impeded breathing, suggest the diagnosis of peritonitis; but if at this stage the patient die and is examined, probably no trace of peritonitis, as revealed by redness or effusion, is discovered. Peritonitis may come on the day following the operation. It may be met by fomentations to the abdomen, by opiate suppositories; and the prostration soon ensuing must be

combated with wine, brandy, beef-tea, chicken-broth. Salines are often useful, especially at first.

"5. If the patient escapes the preceding dangers, there is still the risk of septic infection, of *septicæmic puerperal fever*. The source of this is the absorption of septic matter from the cavity of the womb or from the edges of the wound; or it may arise from general blood-dyscrasia resulting from the accumulation in the circulation of effete matters which the excreting organs are unable to dispose of.

"6. In addition to the dangers incident to the operation and to the puerperal state, there is the danger inherent to the disease which rendered the operation necessary, liable in some cases, as in cancer, to be aggravated by the operation, which may accelerate the fatal issue.

"Winckel says that osteomalacia is much more unfavorable than rickets in connection with Cæsarian section. Still, osteomalacic patients bear wounds well, and the power of repair is often great.

"The uterus often contracts adhesions with the abdominal wall during repair. These adhesions do not appear to entail any serious inconvenience; and should pregnancy again occur, and the Cæsarian section be again necessary, they render the operation less dangerous. The peritoneal cavity is shut off; the incision through the abdominal wall leads directly through the adhesions to the uterus. Thus the dangers of hemorrhage, of effusions into the abdomen, are eliminated, and it is even probable that the shock is less. On the other hand, no adhesions may be found, and the wound in the uterus heals so completely that years after no trace of cicatrix is found (Radford).

"Several cases are now known in which the Cæsarian section has been performed twice, thrice, and even four times on the same woman.

"These cases of repeated success would seem to indicate a special tolerance of severe injury in the subjects, and cannot wisely be taken as evidence, absolute or cumulative and statistical, in reduction of the danger of the operation. This is further illustrated in the following history: Dr. Freericks (*Nederl. Tijdschr. v. Geneeskunde*, 1858) performed the section on account of contracted pelvis. Mother and child recovered. When again pregnant, premature labor was induced about the eighth month. When labor had begun, collapse set in; the uterus had ruptured. The child was removed from the abdomen by gastrotomy. Vomiting caused extrusion of the intestines. To effect reposition, numerous pricks were made in them, to let gas escape, without effect until an incision was made with a bistoury, and much thin pappy matter was evacuated. The intestines were then replaced, and the wound was closed. She recovered completely. How many women would be as tolerant?"

Art. 240.—*Studies on Gastro-hysterotomy.*

By Giuseppe Testa, M.D.

(*Analysis in the Annali Univ. di Medicina*, 1868; and *British and Foreign Med.-Chir. Review*, January.)

In an elaborate work on the Cæsarian section, Dr. Testa discusses the history, statistics, and other points; and especially investigates the following: In some cases the wound in the uterus is found, after death, gaping, in others closed. Testa set himself to discover upon what this difference depended. He minutely examined the muscular structure of the uterus. He found that when the incision is so made as to fall in the line of direction of the fibres, the lips of the wound will be maintained in apposition; but that when the wound cuts across all the layers of muscles, gaping must follow. The gaping will be the greater, the longer the fibres are which are divided; and will increase with the uterine contractions; and since the external muscular fasciculi are longer than the internal, it is clear that the retraction of the first will predominate, and cause the divergence of the margins of the wound. Thus he observes that when the incision fell upon the fundus, cutting the transverse and oblique fibres proceeding from the Fallopian tubes, the wound gaped, owing to the retraction of these

fibres towards their points of origin. And when the incision was made transversely from one of the sides, so as to spare the longitudinal fibres of the tubes, the edges of the wound could be drawn together. In the lower third of the uterus, wounds made in the direction of the long axis, would present the margins in contact, the longitudinal fibres being spared; but since the neck becomes distended and relaxed during the latter months of pregnancy, it follows that the borders of the wound are kept apart by the divided and stronger transverse fibres. The gaping would be greater if the incision was oblique, so as to divide all the orders of fibres. It is true that the anatomical structure of the middle third is the same as that of the lower third, but at this point the longitudinal fibres not having suffered distension, and preserving their tonicity, are fit to maintain in contact the margins of wounds made according to their direction.

In the application of these researches follows, 1. Incisions in the uterus made in the axis of the body, in the upper third, remaining open, give rise to escape of lochia into the abdominal cavity, setting up peritonitis. 2. This may be avoided by making the incision transverse and lateral, but this is to be avoided on account of the risk of dividing large vessels. 3. Oblique and longitudinal incisions in the lower third equally dispose to effusions and peritonitis. 4. Testa recommends to make the incision transversely, and on one side, a little above or below the insertion of the tube, so as to avoid an order of fibres (the longitudinal of a tube before they become oblique) and thus avoiding all obstacle to the approach and union of the lips of the wound. He relates that Dr. Cocchi, of Rome, having followed this advice, saved mother and child. Dr. Testa then examines the various modes of applying sutures to the incised uterus. He objects to most of those proposed, and suggests one of his own. It consists in inserting two long needles at the level of the upper angle of the incision, at a distance of four lines from it, from without inwards through the abdominal parietes; then in making each needle penetrate the thickness of the corresponding lip of the uterine wound throughout its whole length, and always at the same distance from the margin; this done the needles are brought out from within outwards, at the level of the lower angle of the wound. Care must be taken not to pierce into the cavity of the womb. Then a thread is twisted round the upper ends of the needles, and another round the lower ends; the rigidity of the needles suffices to keep the edges both of the abdominal and uterine wounds in apposition. Then straps of adhesive plaster are applied. Thus parallelism is preserved between the wounds; the escape of matter into the peritoneum is avoided; and the protrusion of intestines is prevented.

Art. 241.—*Mechanism of the Fall of the Umbilical Cord.*

By M. de Lignerolles.

(*Thèse de Paris*, 1869; *Archives Générales de Médecine*, No. 3. 1869.)

M. Lignerolles gives the following as the results of his researches on the detachment of the umbilical cord:—

The detachment of the cord takes place in consequence of a process of elimination identical with that of gangrene.

The separation occurs at the level of the summit of the cutaneous prolongation, that is to say, some few millimetres from the abdominal wall. It always takes place at this point, whether there be a hernia or not, because it is here that the vessels of the fibrous ring and of the integument turn back without passing into Warton's membrane, which, as has been admitted by Virchow, is entirely deprived of bloodvessels.

Detachment also takes place at this point, because at this level the vasa vasorum of the umbilical veins are arrested. Further on, that is to say, in the cord, these vasa vasorum are entirely absent.

The retracted portion of the cutaneous prolongation becomes invaginated, and tends more and more to form a plug to the umbilical fibrous ring, in consequence of the incessant refraction of the umbilical veins which adhere to the

circumference of this prolongation. This cutaneous plug and also the plastic lymph which, produced at the time of the elimination of the cord, combines its elements, are the two agents of the occlusion of the umbilical opening.

The mucous tissue of the cord presents but one band of vessels—the lymphatics, which take their origin from the surface of the enveloping membrane, but whose terminations have not yet been described.

The semicircular fibres, to which Prof. Richet gives the name of umbilical sphincter, play but a very subordinate part in the detachment of the cord; their principal use seems to be that of strengthening the ring of the umbilicus.

ART. 242.—*Injections of Morphia in the Pains and After-pains of Labor.*

By ERNEST KORMAN, M.D.

(*The Practitioner*, November, 1868.)

Dr. Ernest Kormann read a paper on this subject before the *Gesellschaft für Geburtshülfe*, at Leipzig, which gives very interesting results as obtained by this treatment. The author does not in the least hesitate to inject morphia for the relief of labor-pains, when they are severe, especially in primiparæ, and also in those subjects who have contracted pelvis. He employs a solution of the sulphate of morphia, three grains to the drachm; it does not require any acidulation to keep the salt dissolved. He gives from one to three injections during the course of a labor; usually only one, however. The doses employed range from about $\frac{1}{4}$ to $\frac{3}{4}$ grain, and he has never had reason to think they did harm. They do not appear to interfere with the steady progress of the labor, though they often reduce the frequency of uterine contractions, when these have been what English people call "niggling." He thinks that they may be used either during the dilating or the expulsory stage of the labor; the former process they often actively aid. It is a remarkable though intelligible fact, that patients who have been injected during labor seldom have *after-pains;* but when the latter have occurred, injection is a most useful and valuable agent in procuring that repose which is so necessary to restore the woman's strength after the fatigues of parturition. The locality which Kormann selects for injection is always the thigh. Besides the above general uses of the injection in parturient women, painful complications, and especially *cramps* of the muscles of the extremities, may be most effectively treated by this method.

ART. 243.—*Expulsion of a Fibrous Tumor after Parturition.*

(*Gazette Hebdomadaire*, No. 23, 1868.)

The following report of an interesting case observed by M. Falin was communicated to the Société Impériale de Chirurgie by M. Depaul:—

A woman, thirty years of age, who had already had three children, arrived at the end of her fourth pregnancy on April the 15th, 1868. On this day she had some pains, and on the following morning the labor commenced. The woman was delivered without assistance of a male child. M. Falin attended a few hours afterwards, and as the woman always lost with her labors some blood, he introduced his hand into the uterus with the intention of removing any blood clots. He then felt a hard and evidently voluminous tumor, to extract which vain efforts were made. In a short time the os uteri closed, the hemorrhage diminished, and was replaced by slightly fetid lochial discharge. The patient had almost completely recovered, when four days after the labor a tumor projected between the labia majora. This tumor was of the size of the wrist, and oval in shape. M. Falin considered it to be a fibrous tumor, and extracted it. Its surface was smooth and without a pedicle; at some points a few linear anfractuosities could be seen.

M. Depaul doubted the correctness of M. Falin's diagnosis. The expelled tumor was of a rosy color, and contained a great number of filaments of cellular

tissue. When divided along its great axis it presented in its interior two cavities, each of which inclosed a spherical body; one of these bodies was movable, and suspended in a reddish fluid; no traces of vessels were perceived in the tumor. It was thought at first by M. Depaul that this tumor migh represent a fœtal monstrosity, and one of that kind which is characterized by a cutaneous covering forming a pouch, in which one meets with *débris* of various organs—osseous fragments, portions of the digestive tube, &c. As the microscope alone could clear up this point, the tumor was examined by M. Robin, who recognized it as a typical fibrous body, multilocular, composed for the most part of smooth muscular fibres, with partitions formed of connective tissue. The product, then, had not a fœtal origin.

M. Depaul states that when a similar mass to the one just described is expelled after parturition it should be examined with care. He has observed an anide monstrosity which bore very great analogy to the fibrous body removed by M. Falin. But fœtal monstrosities of this kind nearly always have an umbilicus, and contain in their interior osseous or cartilaginous fragments. They are generally expelled after labor, and thus constitute, with the infant, a twin pregnancy. Cases of fibrous tumors projecting into the uterine cavity are not very rare, but as a general rule they are not expelled after labor. In M. Falin's case the fibrous tumor had probably undergone hypertrophy during pregnancy, and afterwards, when the labor was over, became enucleated, either spontaneously or in consequence of the attempts at extraction made by the accoucheur. The absence of a pedicle shows that the tumor was not a polypoid growth. Fibrous tumors in connection with labor have been studied by Hauregard, who published nine cases in Malgaigne's journal. M. Danyau also observed a case in which a polypoid growth from the anterior lip made its appearance at the vulva seven hours after delivery, and was excised.

Art. 244.—*On the Value of Perchloride of Iron in Post-partum Hemorrhage.*

By Hugh Norris, L.R.C.P. Edin.

(*British Medical Journal*, April 10.)

Mr. Norris's experience of this drug has led him to the following conclusions:—

1. We possess no topical styptic in efficacy at all approaching the perchloride of iron; its effects being certain, perfect, and instantaneous.

2. In *post-partum* hemorrhages, a solution of this salt applied in the form of an intra-uterine injection, is of the utmost value both in immediately arresting the flow of blood, and in also causing a permanent contraction of the recently emptied uterus.

3. Its presence in the cavity of the uterus, *post-partum*, is not merely not injurious, but, on the contrary, from its well-known antiseptic properties, may frequently be productive of positive benefit in more ways than one.

Art. 245.—*On Cephalotripsy.*

By Robert Barnes, M.D. Lond.

(*Medical Times and Gazette*, November 14, 1868.)

"*The powers of the cephalotribe.*—The all-essential point is that it shall be able to compress and even to crush down the base of the skull. A secondary property which it is desirable to possess is that of holding during extraction. The crushing power can be attained in sufficient perfection, and with a gain in the facility of handling, if the instrument be made much less formidable in bulk than are most of the Continental cephalotribes. Three good modifications have been constructed here. Sir James Simpson's is the best known. He insists upon a pelvic curve in the blades as being less likely to slip than straight

blades. Dr. Kidd's, of Dublin, is the best type of a straight-bladed cephalotribe. Dr. Kidd insists strongly upon the advantages of long straight blades on the following three grounds: First, straight blades admit better of the head being rotated whilst in the grasp; secondly, they are easier to introduce; and lastly, they hold more securely. Dr. Braxton Hicks has modified Sir James Simson's cephalotribe, producing a very handy and efficient instrument. He preserves a moderate pelvic curve and adapts a very convenient screw to the handles as a crushing power. I believe that to seize a head above the brim, as is necessarily the case where crushing is required, the blades should be curved; but this curve should be moderate, otherwise the inconvenience in rotating or shifting the relation of the instrument to the pelvis referred to by Dr. Kidd will be felt.

"When the instrument is applied to the perforated head, it may be made to completely crush the base, flattening the head sideways, or doubling up the base; or, by the slipping of one of the blades inwards a little, the base is tilted edgewise, and the skull is flattened by the pressing inwards on to the base of the squamous and parietal bones. Under either of these proceedings the head can be so flattened as to allow the blades to meet, and as the instrument then measures only 1.50″, the obstacle is reduced to that degree. It is generally desirable to repeat the crushing, which is done by taking a fresh hold in a different direction, and then compressing again. Two crushings will generally be enough.

"A distinctive advantage of the cephalotribe was pointed out by Curchod (Berlin, 1842). It is that the plasticity effected by crushing so modified the form of the head that it was easily moulded to the form of the pelvic brim.

"1. What are the limits of application of the cephalotribe? The maximum of course is not difficult to determine. It may be usefully employed in almost any case of minor disproportion. But what is the least amount of space admitting of its use? This must depend somewhat upon the form and size of the particular model adopted. In a discussion held at Berlin the majority of the speakers thought a minimum of 54 mm. = 2.0″ conjugate diameter was necessary. Lauth says the application begins at 8 mm., or about three inches, at which point the forceps and turning are not available, and ends at 5.0 mm., or a little under 2.0″. But Pajot goes beyond this, and contends that it ought to be applied where there is only 1.25″ conjugate diameter. Credé thinks it should be used if only there is room enough to apply it. In this I am disposed to coincide.

"Other conditions are—

"2. The os uteri must be sufficiently dilated, but this can be readily effected by the caoutchouc water-bags.

"The head must be previously perforated. Abroad sometimes the ordinary forceps is put on to hold the head during perforation; but this is sometimes not feasible for want of room, and is never necessary, since, by means of external pressure and a good perforator, this operation is not difficult.

"*Position.*—The patient may lie on her left side, as in other obstetric operations.

"*Operation.*—The rules laid down for the long forceps will generally apply to the application of the blades, and it is equally unnecessary in either case to have an assistant or a 'third hand.' The lower or posterior blade is passed first, guided well by the left hand passed well into the pelvis if possible. This blade is passed along the hollow of the sacrum until the point approaches the brim and touches the head-globe, when the handle is raised and the point, turning into the left ilium or to the left sacro-iliac synchondrosis, travels over the head. It is passed high up, for the point of the instrument must get beyond the base of the skull. This being *in situ*, the second or anterior blade is introduced also at first in the hollow of the sacrum crossing the handle of the first blade. When the point approaches the brim, the handle is lowered and carried backwards, and the point rises over the head-globe into the right ilium, or opposite the right cotyloid cavity, when it falls into opposition with the first blade. Being locked, the screw is turned slowly and steadily, the hand in the vagina taking note of the work done. If spicula crop out of the scalp, they should be picked

away by the fingers. When the base is crushed in the direction first seized, you may, if the instrument hold, use it as a tractor. If there be any marked resistance, it is better to take off the blades, to reapply them in the opposite oblique diameter and repeat the crushing; then, by rotating the head by turning the handles, you may find that the head is better adapted to the brim, and will come through. But you must be prepared to find the cephalotribe fail as a tractor. It is made to crush, and if it has done this well, it has done good service. I have, however, found Dr. Hicks's instrument hold perfectly. Extraction may be completed by the crotchet or by the craniotomy-forceps, or by turning. The late Professor Davis did not use the cephalotribe, but in extreme cases he cut away the head piecemeal by his osteotomists, and seized and extracted the trunk by a double sharp body-crotchet.

"Pajot of Paris has practised a method analogous to that formerly employed in this country in craniotomy. He performs what he describes as 'cephalotripsie répétée sans tractions'—that is, he first crushes the base by one operation; he then gently tries to effect a slight rotation of the instrument so as to bring the crushed sides of the head into relation with the contracted diameter. If there is any resistance, he desists, and leaves the case for two or three hours for the uterus to mould the crushed head to the brim. He then repeats the crushing, and again gives two or three hours to nature. One or two crushings suffice for the trunk. (See also *Osservazioni di Cefalotrissia*, by Dr. Chiara, Turin, 1867, for a good case in illustration.) Pajot places this method in distinct competition with the Cæsarian section. The cases related by Pajot lend weight to his recommendation; but I cannot help thinking that the operation may and ought to be finished at one sitting.

"When the head is extracted, there may be some trouble with the shoulders and trunk. The shoulders will generally be disposed obliquely in the brim—that is, one will be anterior to the other. By keeping up traction on the head backwards, this anterior shoulder will be brought a little down, so that a finger or the blunt hook or crotchet can be fixed in the axilla to pull it through. When this is done, the head is dragged down forwards, so as to enable the same manœuvre to be repeated with the posterior arm. If this cannot be readily done, it is a good plan to crush in with the cephalotribe. Dr. Davis seized the trunk with his double body-crochet. If turning had been practised after perforating or cephalotripsy, the arms fall in upon the crushed head and offer no obstruction.

"To save the assistants the ghastly sight of the mangled head, wrap a napkin round it as soon as it is born. If traction is necessary in delivering the trunk, it is easier to hold when so treated."

Art. 246.—*On certain Dangers which attend the Operation of Craniotomy.*

By Robert Barnes, M.D. Lond.

(*Medical Times and Gazette*, November 14, 1868.)

"*Certain dangers attend the operation of craniotomy.* What are these?

"Certain injuries may be inflicted upon or result to the mother.

"1. The perforator has been known to strike the promontory of the sacrum or to lacerate the cervix uteri.

"2. Spicula of cranial bones, resulting from perforation, may scratch or tear the soft parts.

"3. The crotchet may slip and lacerate the soft parts.

"The above of course may be avoided with care.

"4. But serious evil is likely to result from deferring the operation too long—*i.e.*, until after exhaustion has set in—and under a too protracted operation in an unsuitable case. Long continued dragging of the head upon a brim which it cannot pass, jamming the soft parts more especially at the two points of greatest projection, the promontory and the symphysis, ends by stopping the circulation in the parts compressed, bruising them, actually grinding through

them. In this way, after severe operations, it has been found that a large hole has been made through the posterior cervix uteri. Such injury, added to the shock and exhaustion of the system, may be fatal.

"5. If the immediate injury above described do not occur, the long-continued pressure may cause mortification of a limited portion of the neck of the uterus. Thus, in the course of a few days, a slough is formed between the vagina and bladder resulting in vesico-vaginal fistula. Dr. F. H. Ramsbotham said (*Medical Times and Gazette*, 1862) that 'in almost all the cases which he had seen of a fistulous opening into the neck of the bladder consequent on labor the child had been putrid, and he attributed the slough more to contact with the putrid head than to simple pressure on the part.' However this may be, I am very certain that simple pressure, especially if bearing upon a limited spot, is enough to cause the accident; and I have quite recently seen a case of recto-vaginal fistula ensuing on the birth of a living child delivered by the natural powers.

"In the possibility of attendant danger, craniotomy differs essentially from the forceps. Whilst under craniotomy mischief or death may ensue, the forceps, if used rightly and in suitable cases, is an innocuous instrument. Statistics, professing to show that the mortality from the use of the forceps is at the rate of one in twenty, are flagrant examples of the fallacy of arguing 'post hoc, ergo propter hoc.' Properly speaking, the mortality from the forceps is *nil*. Women die because the instrument is used too late."

Art. 247.—*On Rupture of the Uterus during Labor.*

By M. J. Jolly.

(*Archives Générales de Médecine*, November, 1868.)

M. Jolly in this article gives the clinical history of twenty-six cases, and states in conclusion that the cessation of uterine contractions does not take place so constantly after the rupture of the womb as the authors of modern treatises on obstetrics seem to think. Without speaking of cases in which after the occurrence of rupture some occasional irregular and feeble pains are observed, there is still a certain number of facts which show that the uterus often maintains its energy and continues to fulfil its functions until the termination, whether natural or artificial, of the labor.

This circumstance should, and does in fact, render the diagnosis more difficult, and imposes upon the practitioner the necessity of the greatest attention.

Finally, in some cases the diagnosis will be aided by the presence (scarcely alluded to by authors) of tumors, having a special character, and perfectly recognizable both by sight and touch. These tumors are due to effusions under the peritoneum or between the two layers of the broad ligaments of blood, either pure or mixed with air, and occupying either the hypogastric region or one or other of the iliac fossæ.

Art. 248.—*On the Introduction of Air into the Uterine Veins.*

By Julius M. Klob, M.D.

(American Translation of *The Pathological Anatomy of the Female Sexual Organs*, 1868. Moorehead, Simpson, and Bond, New York.)

"The statement of Cormack that the uterus, when relapsing into a relaxed condition after contraction, absorbs a considerable amount of air unless the open extremities of the veins be closed by coagula, and that the air thus absorbed is afterwards forced through the veins by renewed contraction of the organ, is founded on the erroneous supposition that relaxation of the uterus may cause the walls of the veins which were formerly in apposition to be again separated. If the first contraction which closes the veins could be overcome by other antagonistic contractions, the effect of which would open the veins; if muscular fibres existed analogous to the radial and circular fibres of the iris, then entrance of air would be inevitable; but upon the cessation of that uterine

contraction which causes the walls of the veins to come together, they possessing too little elasticity, cannot, like a rubber tube, reassume the shape of open vessels. I have not yet seen a case which convinced me that air had passed into the open veins of a recently delivered uterus, and I cannot conceive the mechanical possibility of such an occurrence. Lionet, Lever, and Simpson assert that they have observed such cases, and further remark, that the occurrence was immediately followed by a scarlatinous discoloration of the skin, which may be explained as the effect of sudden oxidation of the blood contained in the capillaries of the skin. Without wishing to lessen the authority of Simpson, it is impossible not to advance the question, Whether this was not a case of Helm's *puerperal scarlatina*, with rapid putrescence and development of putrescent gases in the blood?"

(B) CONCERNING THE DISEASES OF WOMEN.

ART. 249.—*On the Treatment of Imperforate Hymen.*

By Dr. COPEMAN.

(*British Medical Journal*, January 9.)

At a meeting of the Obstetrical Society of London, held Dec. 2d, 1868, Dr. Copeman read a paper on the Treatment of Imperforate Hymen, with Retained Menstrual Fluid. After referring to the question of the diagnosis of these cases, the author proceeded to consider the various plans of treatment advocated, and alluded to the fact that he was one of the earliest writers to recommend the gradual evacuation of the fluid contents of the vagina and uterus. Full particulars were then given of an interesting case in which, in spite of this treatment being adopted, and every precaution used, a severe attack of peritonitis followed the operation; the patient, however, ultimately recovering.

Dr. Barnes observed that the crisis of intolerance caused by the accumulation of fluid in the uterine cavity was postponed by two partially compensating conditions. The watery part of the menstrual blood was absorbed; and after the uterus had been distended by the fluid, a supplementary receptacle was made by the dilatation of the vagina. The pouch formed in the vagina was often very large, and might be mistaken for the uterus itself. He had, some months ago, removed by the wire *écraseur* the vaginal portion of an uterus affected by cauliflower excrescence. The removal was complete and recovery rapid. The woman left the hospital before sufficient means had been taken to preserve the cervix open. She returned with symptoms of retained menses. The closed cervix was opened up with much difficulty, and a quantity of fluid escaped. She again went out, to return after a time with similar symptoms. An opening was again made, by this time severe pelvi-peritonitis followed, from which the patient was but now recovering. He did not gather from the author's paper that any distinct opinion was expressed as to the causes of the danger and mortality which often followed these operations. In some cases the cause seemed to be, that the uterus, suddenly collapsing concentrically, tended to expel its contents by all the openings into it, and that thus some of the fluid was passed out through the Fallopian tubes into the peritoneum, setting up inflammation.

Dr. Tyler Smith would insist on pressure on the abdomen as the chief means of averting risk. In these cases the uterus was distended rather than developed; and on the withdrawal of the fluid, it did not contract as it did after parturition. He believed that the danger was caused by the entry of air into flaccid uterus. This caused decomposition, and led, in the first instance, to metritis and then to peritonitis. Similar mischief sometimes occurred from the entrance of air into ovarian cysts after tapping. The evacuation of the uterus and vagina by a small trocar had long been practised, but to do it *guttatim* when the uterus was large would be interminable. His own plan was to make a moderate opening, and to keep up firm and steady pressure on the abdomen

by bandaging as the fluid escaped, so as to prevent the entrance of air into the uterus.

Dr. Routh had proved by the kinometer that the vagina during inspiration had a power to expel any air or other contents, and during expiration these were drawn up. Any opening made into the vagina would, when the excess of fluid had escaped, allow the gradual sucking up of air and putrefaction of the contents. This occurred in cases of cellular abscess pointing into and opened *per vaginam*. In both cases he preferred an opening *per rectum*. The hymen might be subsequently divided when the uterus had well contracted and all fear of septicæmia was at an end. As a preliminary measure, Dr. Routh advocated the use of ergot, to be followed by the application of a bandage. When the opening had been made *per vaginam*, if the uterine contents became offensive, the whole should be evacuated as speedily as possible, and the interior washed out with some disinfectant fluid.

Dr. Rasch could not approve of evacuating the retained menstrua through the rectum, as a second operation would have to follow to open the hymen. He was convinced that no air entered the vagina of a woman on her back, as there was no natural power to overcome the close apposition of the vaginal walls; while, in the lateral position, and much more so when the patient rested on her knees and elbows, air certainly entered.

Dr. Alfred Hall related a case of retained menstruation from imperforate hymen which occurred in his practice two years ago. The patient was in her nineteenth year. He made a tolerably large opening through the membrane, and after the escape of a considerable quantity of fluid he washed out the vagina with warm water. The case had done perfectly well, and at the end of three months the catamenia came on naturally.

Dr. Wynn Williams said, that the occasional fatal results of operation in these cases were undoubtedly due to septicæmia from the absorption of putrid animal matter. The remedy was the free use of disinfectants. He preferred tincture of iodine, which, as he had proved, rendered inert the poisonous emanations of decomposing animal matter. He thought too much stress had been laid upon the entrance of air into the vagina; all collections of matter inside the pelvis were nearly always offensive.

Dr. Phillips believed that the immediate danger in these cases was of acute peritonitis, caused probably by the escape of some of the uterine contents into the cavity of the abdomen, even after a free external opening had been made. In the only fatal case which he had seen, death resulted from this cause in a few days. On a post-mortem examination the peritoneum was found to contain a quantity of grumous fluid, with which also the Fallopian tubes were greatly distended.

Dr. Barnes said that, with reference to the question of opening into the uterus *per rectum*, he must remind Dr. Routh that there was always air in the rectum retained by the sphincter.

Dr. Arthur Edis referred to a case in which, there being no vagina, the puncture was made *per rectum* with an ordinary curved trocar, the canula being allowed to remain in; and through it much treacly fluid continued to flow for two days, when it ceased; pelvic pain and constitutional symptoms then ensued. A violent paroxysm of pain on the fourth day terminated by more than a pint of the same treacly fluid being suddenly discharged *per rectum*, after which the patient was easier. On the eighth day the canula was removed. At the end of five weeks the uterus was again punctured *per rectum*, and the canula retained in position for four days. Two months after her admission, by her own wish, she left the hospital, and within a few weeks she died. From the constitutional symptoms in this case, it was fair to conclude that air had gained access to the uterus through the puncture.

Dr. Routh believed the cause of the fatal result in this case was that the canula was left projecting from the rectum. The moment fluid ceased to flow from it, it should be withdrawn.

The president, after giving details of a case similar to Dr. Hall's, expressed his opinion that a firm bandage with compress should always be applied around the hypogastrium before the opening was made, and gradually tightened as the

fluid escaped. Of the utility of disinfecting injections, he had a high opinion. With regard to the proposal to discharge the retained fluid by an opening *per rectum*, he thought that the results of the operation were not in its favor.

Art. 250.—*On the Treatment of Pruritus of the Vulva.*

By M. Noel Gueneau de Mussy.

(*Gazette des Hôpitaux*, No. 120, 1868.)

Pruritus of the vulva may be acute, subacute, or chronic.

Acute nervous pruritus should be treated by emollient and starchy washes, to which may be added a decoction of poppy heads or an infusion of laurel leaves. Cataplasms containing rice or starch, lotions of an infusion of belladonna or aconite, and douches of pulverized emollient and narcotic solutions will be found useful.

Applications in cases of extreme sensibility of the affected parts: Solution of bromide of potassium, powdered rice, and belladonna root, a pomade of glycerine and starch, with or without the addition of bromide of potassium and sometimes with tannic acid, will frequently succeed in relieving nervous pruritus in cases where hyperæsthesia of the vulva coexists.

Zandry instituted the practice of cauterizing the inner surfaces of the nymphæ with a pencil of nitrate of silver; and he has stated that the hysterical affections associated with hyperæsthesia of the genitals, frequently disappear or become modified under the influence of this treatment.

It is very necessary to combine with local applications a general treatment of the neuropathic condition, by recommending a course of certain mineral waters, as those of Néris, Luxeuil, Pfeffers, or Ussat; and particularly by looking after the physical and moral conditions of hygiene.

In the herpetoid or acute eruptive forms of pruritus, the majority of the means just indicated may be prescribed with advantage. After cessation of the more acute symptoms, infusions of camomile flowers may be added.

As a general rule tepid, or even hot, lotions answer better than cold lotions. The latter give temporary relief but excite a painful reaction.

The subacute form of pruritus may succeed to the preceding form or present itself at once. Warm soothing lotions will give relief in these cases; but lotions containing a weak solution of corrosive sublimate, or in some instances alkaline solutions, are of great service in the dry forms; glycerine ointment will often relieve a temporary exacerbation of scalding; one may add to the glycerine in certain cases calomel, extract of belladonna, tannic acid, or benzoin. In the subacute form mercurials are most frequently indicated and generally efficacious.

If the pruriginous lesions extend to the vagina, and if this gives exit to morbid secretions, it will be necessary, after an examination of the uterus and after fulfilling the immediate indications which may result from this examination, to inject sometimes simple soothing and resolvent lotions with the addition of decoction of poppy heads, infusion of aconite, infusion of camomile flowers, or borax. In addition it will be beneficial to introduce daily into the vagina, and to leave there for some hours, a small roll of wadding saturated with glycerine.

The chronic form requires the same topical treatment, but handled more freely; the irritability of the parts is reduced, and the affected integument is less sensitive to the action of modifying agents. Sulphurous baths, which are dangerous in the preceding forms, may now be employed with advantage. M. Noel de Mussy's experience has convinced him of the utility of sulphurous solutions in a great number of chronic affections of the skin. They modify the nutrition and secretion of the integument, and at the same time stimulate it; and are often indicated in chronic and sometimes even in subacute forms of cutaneous affections which are not very irritable, whatever may be their diathesic origin, so long as there is no contra-indication to their employment.

Mercury will often prove very efficacious in the chronic forms of pruritus.

The affections grouped by Dr. Bazin under the names of herpetides and arthritides, may undoubtedly be cured by mercurial applications without one being able to declare, from the fact of the cure, any presumption of a syphilitic origin. Generally, in the dermatoses of the vulva, solutions of mercury are preferable to pomades; the latter, however, are useful in certain cases. M. Noel de Mussy has derived benefit from pomades of calomel and belladonna.

A solution of corrosive sublimate (50 centigrammes to 500 grammes of water), mixed with a very hot decoction of poppy-heads, has given very good results in M. de Mussy's practice.

M. Noel de Mussy does not fail to give pre-eminence to internal treatment, which ought to accompany and even precede external applications. Most frequently, in order to prevent the metastases which too often follow the suppression of an inveterate morbid localization, the local treatment is not commenced before the organism has been subjected for two or three weeks to general modifying remedies which may subdue the constitutional diathesic substratum of the local lesion.

In this important part of the treatment, hygiene occupies the first place: pure air, a restorative but non-stimulating régime; an avoidance of all moral and physical excitement which may increase the cutaneous lesion; next come those modifying agents of nutrition which are considered as depurative; the juices of bitter vegetables combined with appreciable quantities of sulphur and iodide of potassium. To these may be added more energetic modifying agents, as arsenic in small doses, or the mineral water of La Bourboule, which contains from 8 to 15 milligrammes of arsenite of soda in the litre, associated with 4 grammes of chloride of sodium and 2 grammes of the bicarbonate of soda, a happy combination, which modifies powerfully the nutrition and the quality of the blood, and is not less useful in the scrofulides than in a great number of the herpetides where the tone of the system requires raising, and useful also in some cases of arthritic disorders. To elevate or maintain the nutritive action is an indication which is present in all chronic diseases. Alkalies may also be added with advantage, and if the cutaneous eruption be set up in consequence of an excess of uric acid in the blood, the solid salts may fulfil a chemical indication which it is well to consider.

In pruritus due to vulvitis in young girls, tonics and sulphuro-alkaline baths will often be useful. M. de Mussy has often brushed over the parts a solution of nitrate of silver, and after the cessation of the acute stage, applied lotions of sulphate of zinc, alum, or compounds of tannin. With pregnant women the pruritus sometimes persists even after delivery. Cataplasms made with rice starch and infusion of aconite, will often succeed in cases where all other topical remedies have miscarried.

In all cases of pruritus of the vulva, it is by the combined action of general modifying agents and of topical applications that one may hope to obtain a cure; relapses are of very frequent occurrence, and it is only by the persevering observance of hygienic precepts that one may hope to prevent them.

Art. 251.—*Uterine and Vaginal Discharges.*

By James R. Lane, F.R.C.S., Senior Surgeon to the Lock, and Surgeon to St. Mary's Hospital.

(*British Medical Journal*, December 5, 1868.)

When these discharges are of purely local origin, and there is no constitutional fault, their cure may be speedily effected by local applications. The plan commonly pursued at the Lock Hospital is to make the patients use vaginal injections for themselves three or four times daily. The lotions employed are the diluted liquor plumbi subacetatis, or solutions of sulphate of zinc, alum, or tannin, in the proportion of five grains to the ounce of water. The syringes are large enough to hold six ounces of the lotion, and have a pipe long enough to reach the upper part of the vagina readily. Both these points are important, for the syringes commonly used will not contain sufficient fluid to wash out the canal effectually, and the pipe affixed to them will not admit of its reaching the

upper part of the vagina at all. When the vaginal mucous membrane is inflamed and tender, the house-surgeon, when the speculum is used, which is at least twice a week in all these cases, inserts a strip of lint dipped in the lead-lotion, and this is allowed to remain for three or four hours. If the inflammation be acute, the application of the strip of lint is repeated daily through a small speculum. By these means, discharges proceeding from the *vagina* may usually be cured in a few days, but the injections should be continued as long as any abnormal uterine secretions are observed, for the latter, if not frequently washed away, will be likely to re-excite disease in the vaginal mucous membrane.

But vaginal injections are of little or no use for the cure of discharges proceeding from the interior of the cervix uteri—a complication which is almost invariably present in these cases. In the treatment of this condition, success will depend mainly on the amount of personal care and attention afforded by the surgeon himself. At the Lock Hospital, the speculum is used twice a week in all, and three times a week in many, of these cases; and through it suitable applications are made to the os and cervix. The nitrate of silver, either solid or in solution, is the remedy most in favor, especially in the earlier stages of the treatment, and when the discharge is purulent; later, simple astringents, such as tannin alum, or perchloride of iron, are employed. Before using the caustic, all discharge should be wiped away from the os uteri with a piece of dry cotton-wool; and the plug of tenacious matter, which usually fills the cervix, should also be removed or it will prevent the remedy reaching the diseased surface. The application of a strong solution of alum coagulates this discharge, and renders its removal more easy. The stick of nitrate of silver is then inserted to the depth of about an inch into the canal of the cervix, and is also applied to any abraded or ulcerated surface which may be seen around the os; or, instead of the stick, a solution of the nitrate (a drachm to an ounce of water) may be applied by means of a piece of sponge or cotton-wool about the size of a pea, which is passed along the cervical canal with a suitable pair of forceps. Mr. Lane prefers to use the solid nitrate on the first one or two occasions, and afterwards the solution. By these means, the discharge speedily loses its yellow color, and becomes white or semi-transparent. When this result is obtained, astringent solutions, such as the milder liquor ferri perchloridi of the British Pharmacopœia, or solutions of alum or tannin (a drachm to an ounce of water), may be substituted with advantage for the nitrate of silver. The glycerinum acidi tannici, or acidi gallici, are also frequently used; but they do not appear to possess any advantage over the watery solutions.

Other methods of applying remedies to the interior of the cervix uteri have been tried, but the plan above described has been found most convenient and effectual. A very efficient mode is to inject the solutions into the cervix with a syringe; but this has the disadvantage of being sometimes followed by abdominal pains—no doubt, from the fluid penetrating too far into the body of the uterus. Mr. Lane has also used suppositories containing nitrate of silver, sulphate of copper, or alum, incorporated with cocoa-butter, in the proportion, by weight, of one part to four or five, and made into pencils of appropriate size for introduction into the cervix uteri. These answer well enough; but, on the whole, Mr. Lane is disposed to prefer aqueous to greasy applications. The essential point, whatever the substance or solution chosen, is to take care that it is effectually applied along the whole length of the canal of the cervix uteri. There is rarely any pain occasioned by the use of caustics or astringents to these parts. The patients are almost invariably quite unconscious that anything is being done.

Art. 252.—*On a Peculiar Form of Vaginitis.*

By Prof. H. Hildebrandt.

(*Monatsschrift für Geburtskunde*, August. 1868; and *Gazette Hebdomadaire*, No. 42, 1868.)

Professor Hildebrandt has had occasion to observe a form of vaginitis which, in its symptoms, progress, and termination, differs from acute or chronic catarrh of the vagina.

The characters of this affection, to which M. Hildebrandt has given the name of adhesive ulcerative vaginitis, may be briefly detailed as follows:—

The inflammation occupies the superior third of the vagina; the mucous membrane is sometimes even, smooth, and not swollen; at others it is slightly eroded, red, and sanguinolent; it is deprived of its epithelium, and reveals the papillæ in the form of delicate points; the surface of the mucous membrane readily bleeds on contact with the finger and speculum. The discharge is viscid, thick, creamy, often mixed with streaks of blood or of sanguinolent serosity, and it presents under the microscope elements of pus and of pavement epithelial cells.

The lower two-thirds of the vagina and the vestibule present a mucous membrane which is almost quite normal and rarely even slightly inflamed.

The chief characteristic of this affection is a remarkable tendency of the affected parts to unite with the vaginal portion of the cervix uteri. This adhesion may take place with such rapidity that in a short time the fundus of the vagina is entirely represented by a kind of regular arch, at the summit of which may be seen the orifice of the neck, but with no visible appearance of the cervical projection.

Professor Hildebrandt reports five cases of this form of vaginitis, and attempts to demonstrate that it differs from the varieties hitherto described. It cannot be considered as a diphtheritic process analogous to that met with in infants in the course of severe and adynamic fevers, since one does not find here diphtheritic patches or adherent exudation, but merely a simple erosion of the mucous membrane without exudative formations, and, moreover, the affection remains restricted to the upper third of the vagina. It is difficult, however, to make out the true cause of this affection. The five affected patients presented very different ages: twenty-three years, forty-eight years, forty-nine years, fifty years, seventy years; the affection seems to take on a more special character at an advanced age. All the patients had escaped the risk of contracting those uterine affections which are associated with blennorrhagia, and from the troubles of menstruation and the different actions which result in catarrh or ulcerations of the cervix. It is equally difficult to explain the intercurrent hemorrhages which had existed in the women who were the subjects of these observations, since at the ages of fifty and seventy years all menstruation had ceased; one cannot but attribute them to irritation of the eroded parts of the vagina. In one of the cases the patient complained of very acute pain, and the vagina was completely obliterated. It may be concluded that this symptom was the result of retention of products secreted by the uterus. It will perhaps be thought that this tendency to adhesion of the vagina and cervix uteri results from senile atrophy of the genitals, but, as Professor Hildebrandt remarks, the distinction rests upon important characters. In fact, in adhesive vaginitis, the vagina retains its normal breadth and shortness, the uterus remains at its ordinary elevation, and presents a mass as well developed as in the normal condition. In senile atrophy the vagina is contracted in all its dimensions; the uterus presents changes in form, consistence, position, and size, which do not exist in cases of adhesive vaginitis.

ART. 253.—*On the so-called Dysmenorrhœic Membrane.*

By JULIUS M. KLOB, M.D.

(American Translation of *The Pathological Anatomy of the Female Sexual Organs.* Moorhead, Simpson, and Bond, New York.)

"Morgagni, Madame Lachapelle, Boivin, and Duges had already observed in dysmenorrhœa, the expulsion of peculiar membranes from the uterus, the striking resemblance of which to the *membrana decidua* had been remarked by P. Frank. Desormeaux, Churchill, Montgomery, Chéreau, and others, considered these membranes as croupy exudations, until their true nature was demonstrated by Simpson, Oldham, and Virchow.

"The membrane, which is generally covered with coagula when expelled in its integrity, is of a flattened and triangular shape, with two long borders and

a short one; the posterior and anterior layers being united at their margins, the membrane consequently forms a sac. At its angles this triangular sac is open, and the borders of these openings have a ragged appearance. Its external surface is rough and felt-like, and perforated by numerous openings, some of which are larger than the puncture of a needle, and are also visible on the inner surface, giving the walls of the sac a sieve-like appearance. Its inner surface is smooth, and of uniformly soft feeling.

"It is now clearly demonstrated that this membrane is nothing more than the exfoliation of the whole mucous membrane of the uterus during menstrual intumescence, for it is easy to detect in it, with the aid of the microscope, the characteristics of that membrane. Simpson recognized the above-mentioned perforations in the membrane as corresponding with the utricular glands, and found them to consist chiefly of nucleated cells; he therefore concluded that this membrane was nothing more than exfoliated hypertrophial mucous membrane. Virchow, even with the naked eye, noticed large bloodvessels in these membranes.

"Consequently, in this affection, the uterine mucous membrane is cast off as far as its matrix, and a sort of decidua is formed in consequence of a condition which Virchow calls 'pregnancy on a small scale,' and for which membranes he therefore proposed the name of menstrual decidua. According to Oldham this membrane is formed between the menstrual periods, the process commencing with considerable congestion of the ovaries, which extends to the posterior wall of the uterus, and frequently occasions retroversion of the latter.

"I have already stated that menstrual intumescence of the uterus differs very little from that accompanying acute catarrh. If therefore we are constrained to consider the process producing the menstrual decidua as an excess of menstrual phenomena, especially in the mucous membrane of the uterus, it follows that those pathologists were not far from the truth who described such cases as *endometritis*.

"Finally, I must also mention those cases which Rokitansky suspects to be abortion during the first days of pregnancy, although this connection is not clearly proven.

"Membranous coagula, consisting of fibrin formed in the cavity of the uterus from extravasations, and moulded to the shape of the uterine cavity, are sometimes mistaken for menstrual decidua. Of course they are entirely destitute of organization, and not always of the peculiar sieve-like appearance."

Art. 254.—*On Uterine Hydatidiform Disease, or Cystic Degeneration of the Ovum.*

By Thomas More Madden, M.R.I.A., L K. & Q.C.P.I., M.R.C.S. Eng., Assistant Physician Rotundo Hospital.

(*Dublin Quarterly Journal of Medical Science*, November, 1868.)

Dr. Madden submits the particulars of the two following cases of uterine hydatidiform disease, one of which came under his notice several years ago, and the other of which occurred very recently:—

"Case 1.—On the 4th of October, 1860, I was requested to visit Mrs. K., who, I was informed, was threatened with miscarriage. She was twenty-two years of age, and had previously given birth to two children at the full time. She stated that she believed herself to be five months pregnant, and her abdomen presented the ordinary appearance of a woman about that time advanced in pregnancy. For three days before I saw her there had been a considerable amount of clotted blood discharged from the uterus, and the midwife assured me that she had distinctly felt the placenta presenting. On examination, however, I found the os small and rigid, and discovered the supposed placenta to be nothing but a rather firm clot. Her pulse was extremely weak and thready, and I gave her an opiate draught and employed cold applications to the vulva. In about two hours from this time a larger clot than had yet appeared was discharged, together with some fluid blood, and was followed by a large mass of hydatids and fresh clots, which filled a large basin. These hydatids were of the

usual character of such formations, though some of them were larger than those generally met with, consisting of pedunculated spheroidal cysts varying in size from a currant to a plum. As the hydatiform mass was very slowly expelled, a dose of ergot was administered, and the discharge continued at intervals for upwards of an hour. When it had ceased, and the uterus, stimulated by pressure with a cold hand, had firmly contracted, I bound her up in the usual manner. She complained greatly of after-pains, but, with this exception, her recovery presented nothing worthy of notice.

"Case 2.—Eliza Fox, aged fifty-three, married, the mother of fourteen children, was admitted into the Rotundo Lying-in Hospital, Sept. 30th, 1868, suffering from hemorrhage. The history of her case, which I took down from herself, is as follows: She was last pregnant eight years ago, and her menses have not yet ceased. For the past twelve months there had been a constant red discharge from the vagina, and at the same time her abdomen had been increasing in size; she did not, however, believe herself pregnant, owing to her time of life. During the same period occasional gushes of red watery fluid from the uterus were observed. On the 17th of September a smart attack of hemorrhage occurred, and three days later regular labor pains, as she says, set in, accompanied by hemorrhage—these occurred at long intervals; and on the 27th a large mass, which appears from her description to have consisted of hydatids, was expelled from the uterus. On the 29th the hemorrhage and pains returned, and after two hours of strong labor pains a small fœtus, as she says, 'about as long as her hand,' was expelled—this appears to have been blighted at an early period of pregnancy, and was followed in due course by the placenta. Some hydatids now also came away. Dr. A. Speedy was then sent for, and had her removed into this hospital. As the discharge of blood still continued, half an hour after her admission, Dr. Beatty removed a mass of hydatids from the uterus, after which the hemorrhage did not again return. These hydatids are thus described by the pupil on duty in the case book: 'She expelled several masses, varying in size from a pea to a grape; some round, others oval; the small ones rather transparent, the large ones of a straw color; some were separate, others attached to a solid mass; evidently hydatids of the third order.' The specimens I have preserved of these hydatids are well described in the foregoing extract from the ward book. The patient made a good recovery, and I discharged her on the 8th of October, having kept her only eight days in the hospital."

Art. 255.—*On the Removal of Small Uterine Polypi by Torsion.*

By Prof. E. Martin.

(*Monatsschrift für Geburtskunde*, xxxii. 1868; *Schmidt's Jahrbücher*, No. 1, 1869.)

According to Professor Martin, of the different methods for removing uterine polypi, that of excision by means of the knife or scissors is especially adapted for firm, slightly vascular, and long stalked follicular growths, but less fitted for tumors rich in bloodvessels, unless the patient be an inmate of some hospital and under constant and experienced supervision. The best method for removing the latter forms of polypi and those with strong pedicles, consists in the application of some special strangulating apparatus, as the écraseur. With those tumors, on the other hand, which are furnished with thin soft pedicles (follicular polypi, myomata, myofibromata), and are developed on the lips of the os uteri or at the lower parts of the cervix, torsion will generally be the most serviceable plan. Professor Martin has applied this method with positive results in two cases of uterine myoma associated with profuse metrorrhagia. The proceeding, he says, is simple. The tumor having been exposed by means of a tubular speculum, whereby the vaginal portion of the cervix is fixed and the operation thus shortened, is seized by a small pair of dressing forceps or by Mugeux's hooked forceps; the instrument is then turned round repeatedly on its long axis until the growth becomes detached through torsion. In Professor Martin's cases there was no after-bleeding. The subsequent treatment consisted in injections of the sulphate of copper or of zinc practised twice in the twenty-four hours for several days. With cancerous protrusions the base is destroyed by cauterization with caustic lime or caustic potash, the application of the agent being repeated every eight or fourteen days until complete recovery.

Professor Martin gives the following as the results of his experience regarding the treatment of pedunculated uterine polypi in clinical and private practice: 1. The method of removal of the growth must vary according to the condition of the pedicle. 2. Removal with the knife or scissors is frequently attended with danger in cases where the patient is not under the constant supervision of skilled persons. 3. The ligature may be replaced with advantage by the écraseur in the removal of certain uterine polypi. 4. When the polypus possesses a soft and fragile pedicle torsion is to be recommended as the best plan for its removal.

ART. 256.—*Prolapsus Uteri of Seventeen Years' Standing Cured by Operation.*

Under the care of Mr. NORTON, of St. Mary's Hospital.

(*The Lancet*, January 23.)

The patient, whose case is appended, is at the present time—a year and a half after the operation—a milk-carrier in London; and though the weights she bears are excessive, there has been no return of the disease, nor have there been any bearing-down pains. She continues in perfect health.

Mrs. M. had labored under the severe effects of an extensive prolapse of the womb since the birth of her last child, a period of seventeen years. She stated that she was unable to walk, or in any way to gain a livelihood, and that she was only free from pain when lying down.

On examination, the uterus was found altogether external to the vagina. It was much enlarged, thickened, and indurated, and around the os, and upon different parts of the vagina, were several small ulcerations. Pessaries of various forms had been used to support the womb, but without effect.

Mr. James Lane saw the patient with Mr. Norton, and it was determined that the operation which Mr. Lane had performed on several occasions should be adopted.

On the following Wednesday Mr. Norton removed an elliptical piece of the mucous membrane about three inches and a half in length, by two in breadth, from the vesical wall of the vagina. The cut margins were then brought together by means of ten silver-wire sutures, and the uterus returned to its normal position. The bowels were confined by opiates till the sixth day, and then relieved by castor oil. The vagina was syringed daily with warm water, and after eight days the sutures were removed.

Fourteen days after the first operation, Mr. Norton removed by a horse-shoe incision rather more than an inch of the mucous membrane of the posterior and lateral walls of the vagina, including the cutaneous margins of the fourchette. The denuded surfaces were now approximated as in the operation for ruptured perineum, and were firmly fixed by means of silver-wire quilled sutures. The projecting lips were more evenly adapted by a second row of wire sutures somewhat deeply placed. As on the previous occasion, the bowels were quieted by opiates throughout the week. The quilled sutures were removed after forty-eight hours, and the others in seven days. On the removal of the quilled sutures a few drops of pus exuded, and the parts around showed some little redness and induration, but these symptoms were relieved by a bread and water poultice.

Within a fortnight after the second operation the patient left the hospital entirely cured.

ART. 257.—*Stricture of the Internal Os as a Cause of Miscarriage.*

By WILLIAM MARSHALL, M.D.

(*Glasgow Medical Journal*, February, 1869.)

The author relates the following instructive case. He was called to a delicate woman, aged thirty, five months advanced in pregnancy:—

"The pains were strong and forcing, very similar in character to those which

immediately precede the expulsion of the head in a primipara. I was told that when pregnant last she had miscarried at the fifth month, and that the pains then, for three hours, had been very severe—much worse than she had ever had in any confinement, and similar to what they were now. On examination, I found the os uteri dilated to the size of half a crown, and very soft. On passing my finger further up in order to feel the fœtus, I found the canal of the cervix becoming decidedly narrower, when suddenly she cried out that I was cutting her, and jerked herself away. On a second attempt the same thing was repeated; but on a third, being prepared for her moving, I ascertained that a tight resisting constriction existed at the internal os, which would not admit the tip of the finger. As soon as I touched the constricted part, she complained of a severe cutting pain; and on attempting to pass the finger through it, she became hysterical, and on my persisting, *perfectly maniacal*. On withdrawing my finger she immediately became rational, and complained of the agonizing pain I had caused her.

"As she was quite positive that in her previous miscarriage she had suffered for three hours as much as she was doing now, I waited for a couple of hours. During this time the pains were very strong, and the suffering greater than I had ever seen in any confinement. In order to make a thorough examination, I put her under chloroform. The external os was very soft and dilated; but at the internal os there existed a constriction which still readily allowed the finger to pass through, and which seemed now quite dilatable. The breech was presenting, and I had no doubt that when a pain came it would be pushed through, and the whole thing soon be at an end. The pains, however, did not return as long as I kept her under chloroform, so that I was forced to discontinue it. The stricture returned with the first pain, firmly grasping the tip of my finger, which I had retained in the uterus. I now gave her a dose of ergot, and waited until one o'clock, when, finding that little or no progress had been made, I determined to notch the stricture in one or two places, under chloroform, as it was impossible to touch it without causing intense pain, and bringing on a maniacal paroxysm. I went home for a probe-pointed bistoury, and on my return in half an hour found the strictured part, with the breech forced into it, protruded through the external os, which was drawn up around it. After a few pains, the breech passed through the constriction; I pulled down the body, and finding that the hand would not come, pushed my finger past it, hooked it over the crown, and pulled the head through the stricture. Without withdrawing my finger, I detached the placenta, and withdrew it and the finger at the same time. While doing all this the patient was perfectly maniacal—she shrieked, kicked, struck, and bit at those around her. Immediately on withdrawing the finger she became rational, and apologized for what she had done; the agony had been so intense, she said, as to drive her for the time out of her senses. She recovered without a bad symptom."

Dr. Marshall makes the following remarks on this case:—

"1stly. With regard to the stricture itself, it is remarkable (1) that a stricture should have existed in such a spot; (2) that it should have been so exquisitely painful to the touch; (3) that the pain should have given rise to paroxysms of hysterical mania. May not some forms of puerperal mania depend upon a uterine lesion acting on an hysterical system?

"2dly. That the stricture was the cause of the miscarriage in this and the previous pregnancy I have no doubt. I have never seen this mentioned as a cause of premature labor. The uterus up to the fifth or sixth month of pregnancy grows and expands almost entirely in its upper part. At that time it enlarges downwards from the internal os; but in this case the stricture would not allow it to expand, and by continued irritation induced labor-pains.

"3dly. If this be true, it throws some light upon 'What is the cause of labor?'—a point, I believe, still undetermined. If you examine the uterus at the eighth month, you find a considerable portion of the neck still unexpanded; if you examine at the end of the ninth month, you will find the neck entirely obliterated. What happens then? Does the uterus stop growing? No: it still continues to enlarge downwards, and it can only do so by dilating the os. Had this stricture been situated at the external os, the uterus would have gone

on growing till the end of the ninth month, and then, just as in the miscarriage, by irritation of the stricture, labor-pains would have set in. It is not necessary, however, to invoke the aid of a stricture at the external os to induce labor-pains. The os is the most sensitive part of the whole organ; to dilate or irritate which is to bring on pains. This the natural growth of the uterus does; then those contractions of the uterus, sometimes painful and sometimes painless, which occur every hour or two during the latter months of pregnancy, recur with greater frequency; the membranes and the head of the child are pushed down upon the os, exciting it more and more to induce pains by reflex action, until finally the labor is accomplished. This I have long regarded as the explanation of the cause of labor: the natural expansion of the uterus, acting on the sensitive os, begins to dilate it, and through it reflexly the necessary pains are called forth."

Art. 258.—*Extra-uterine Fœtation.*

By Evory Kennedy, M.D., of Dublin.

(*British Medical Journal*, January 23.)

Dr. Kennedy records three highly interesting and instructive cases of extra-uterine fœtation. In the first case the patient died from hemorrhage caused by rupture of the right Fallopian tube.

In the second case there was also internal hemorrhage which completely prostrated the patient, but under careful treatment she recovered. Dr. Kennedy lost sight of the case afterwards, so that the history of it was not complete.

The third case Dr. K. saw with Dr. Dwyer. Dr. K. gives the first part in the words of Dr. Dwyer, and the latter in the words of Dr. Churchill:—

"Mrs. —— has had one child, at this date (October, 1844) ten years old. About two years since she fancied herself pregnant; her menstruation having become scant and painful, accompanied with profuse leucorrhœa, occasionally tinged red. I treated her for these symptoms; and on her recovery, did not again see her until Sept. 4th, 1846, when she was suffering from symptoms of early pregnancy. Her last period had been on 16th July, 1846; it was natural, and she expected her confinement at the end of April, 1847. She now commenced suffering from *malaise*, with uneasy sensations in the uterine region; and on Oct. 20th, these became so acute that Dr. Kennedy was called in to see her with me. Fomentations and sedatives were directed, and with relief, for some days; when suddenly there set in agonizing pain in the right uterine and iliac regions, attended with vomiting and great prostration, with extremely small pulse, indicating apparently some peritoneal injury. Dr. Kennedy was at this time out of town; and Sir Henry Marsh saw the case with me. Opium was now administered freely, one grain of solid opium being given every second hour for some hours; and fomentations were repeated, followed by a blister and brandy. She gradually obtained relief, improved in health, but always experienced more or less sense of uneasiness and weight in the right iliac region. I discontinued my attendance on Nov. 7th; but was subsequently informed that she had quickened. I was called to see her on Nov. 26th; and on examination with the stethoscope, detected in the right iliac region, which felt full, a distinct placental *souffle*. I did not visit her for nearly four months from that time, and was again called to see her in March, 1847, when she suffered great distress from pressure, and, as she termed it, a bursting feeling at intervals. I now sought for the sounds of the fœtal heart, but always in vain. A bandage and mild aperients afforded relief; and on April 25, 1847, I was summoned by the nurse-tender then in attendance upon her, who supposed her in labor. She stated that she had been all night complaining; and added that, as the pains continued, she thought it well I should know. The pains subsided, and the threatening went off for ten days, when, in consequence of the pain returning, with uterine discharge, I was suddenly summoned, and immediately asked for a consultation with Dr. Kennedy."

"Here Dr. Dwyer's report terminates; and I shall now state the rest of her case in its early stage, with which I am myself familiar.

"On a close investigation of her case, we satisfied ourselves that the os uteri was patulous. The neck was not obliterated. A resisting fulness was felt at the upper part of the vagina, pressing on its upper floor, and more perceptible at the right side of the uterus, the neck of which was traceable and but little enlarged beyond what would be the case if unimpregnated. It was pushed over to the left side. A steel sound was introduced by me into the os uteri, and passed up for upwards of three inches; and Dr. Dwyer could distinctly feel the point of the sound pressing up the fundus of the uterus against his fingers placed above the pubes. We now arrived at the conclusion that the case was one of extra-uterine pregnancy, most likely of that form in which the ovum had rested low in the Fallopian tube, close to the wall of the uterus; and further, as the pains had yielded under treatment, principally sedatives, and as there was no indication of internal hemorrhage, at least to any serious extent, from the rupture of the cyst (if this had taken place), we determined that no more decided interference was then called for. We informed the patient's friends of our opinion, and endeavored to reconcile them to the idea that at some future time nature would assist in accomplishing the throwing off of the fœtus, by abscess pointing in the vagina, or elsewhere, when assistance could be rendered more safely than by attempting any operation at the moment. This opinion was very unpalatable to the friends, and so ungraciously received, that we were relieved from further attendance upon the case, and the lady placed herself under the care of an eminent physician, since dead, who arrived at conclusions different from what Dr. Dwyer and I had done as to the nature of the case. What these were we never could exactly ascertain, further than that, in his opinion (an opinion I feel bound to say, with justice, highly thought of in the profession), the lady 'was not—nor had she been—pregnant, and consequently did not carry about a dead fœtus.'

"Eighteen years passed over. The lady, I have been informed, continued in a complaining state, but was able to go about, and did not evince much appearance of delicacy. She was said to have suffered from general debility, and for several years from a profuse menstrual discharge, as well as from rather constant sanious—purulent or leucorrhœal—discharges. These symptoms, and her general delicacy, ascribed in a great measure to the mistake which her physicians had made in pronouncing her pregnant when not so, and treating her accordingly, caused much interest to be taken in her, both within and without the profession, especially when this lady's case came upon the *tapis* between mutual friends. It should operate as a warning to the younger members of the profession, who pride themselves upon an astute diagnosis. For eighteen long years we reaped the full benefit of ours before the mystery was elucidated; and the only answer the two doctors could give to the repeated attacks and insinuations about the error they had committed, was '*wait!*' But, happily for the sake of science and truth, the mystery was eventually cleared up, and happily for the doctors they survived its elucidation. Some months since Dr. Churchill and Dr. Butcher were called to see this lady; and I shall best conclude the case by giving Dr. Churchill's account of the result in his own words.

"I was called to see Mrs. ——, in a state of debility, worn out with discharges from the vagina of long standing; and on examining *per vaginam*, I found behind the cervix uteri, and a little to the right of the mesian line, a small opening as large as a goose-quill, into which the finger-nail entered, and grated against a hard substance, which was concluded to be bone. Higher up, a small tumor could be felt in the posterior wall of the uterus. On consultation with Dr. Butcher, this opening was enlarged by me; and Dr. Butcher removed the bones of a fœtus in detached portions denuded of soft parts, and much discolored, indicating development to about the third month. Some bones were subsequently expelled with the discharges; and the cavity, on being examined by me, seemed to be large enough to contain a good-sized walnut. Her health improved immediately after the healing of the abscess, which was speedily accomplished, and her periodic health became regular and moderate, with total subsidence of sanious and leucorrhœal discharges, to which she had been for eighteen years more or less liable."

The question that remains an open one in this case is, Whether rupture of

the cyst occurred; and if it did, at what period of the pregnancy? If rupture occurred, it must have been almost the 25th of October, when the acute abdominal suffering occurred, for which Sir Henry Marsh and Dr. Dwyer treated her; but she evinced no symptoms of internal hemorrhage; therefore, if the rupture occurred, no serious amount of blood could have made its way into the abdomen. The absence of any increased size or tumor in the abdomen further confirms there having been no hemorrhage in this, as was the case in the two preceding cases. Another feature of interest, that creates a doubt as to the exact period at which the development of the germ ceased, is the fact of Dr. Dwyer having detected the placental murmur exactly a month after the occasion of violent pains on the 25th of October. It will no doubt be in the recollection of the profession, that, in the year 1833, Dr. Kennedy put forward some cases of murmur existing after the death of the fœtus, but altered and more abrupt in its character; and this may probably have been the case here.

Art. 259.—*Treatment of Placenta Prævia.*

By Dr. Fluck.

(*The Practitioner*, January.)

Dr. Fluck, of Niederselters, speaking of the various methods of dealing with the hemorrhage of placenta prævia (*Der Praktische Arzt*, October), contrasts the merits of the plan of plugging the vagina with those of injecting dilute perchloride of iron, much to the advantage of the latter. The latter method, he says, has the advantage of checking the bleeding promptly, without interposing any obstacle to the frequent examination of the os uteri and of the placenta, which is of the greatest importance. Fluck uses cold water for the injection, and adds the chloride of iron in such proportion as to make a mixture of a greenish yellow-brown color; the operation is performed gently and with pains, so as to avoid penetration into the cavity of the uterus. It is used just sufficiently long to arrest distinct hemorrhage, and is repeated before each operative interference; ergot is also given internally; and the uterus, when emptied, is steadily compressed with the hand from without. His plan is to rupture the membranes as soon as may be after arresting the hemorrhage. He relates five cases thus treated, all the women being multiparæ. In four of these the mother was saved; in one the mother died from intra-uterine hemorrhage, with great distension of the womb, after the delivery of the child and the placenta (the fœtus had been long dead, and was decomposed). In one other case the fœtus was also putrid; in a third it was born alive, though extremely *anæmic*. In the other two the child was born dead, and apparently had died from anæmia at some stage of the labor. On the whole, these results do not appear very encouraging as regards the life of the child, judging from the three cases in which the child had apparently not died before labor commenced; and one wonders if the author has tried Dr. Barnes' plan of partial separation of the placenta from the uterus. Another thing in Dr. Fluck's narration which is calculated to surprise an English physician is the sparing use, or almost non-use, of alcholic stimulation under the circumstances of exhaustion, in which more than one of his patients obviously was. More particularly in the case which terminated fatally, one is amazed that Dr. Fluck should have trusted to "strong coffee and ether," when the most strenuous manipulation had been found necessary, in order to effect the delivery of the dead and putrid child, and the woman was exhausted in the extreme. One would think this was just one of the cases in which the prompt administration of unlimited raw brandy would have been likely to save life.

ART. 260.—*On the Operations for the Relief of Chronic Inversion of that Uterus, with the Account of a Case Successfully Treated by a New Method.*

By ROBERT BARNES, M.D., Obstetric Physician to St. Thomas's Hospital.

(*The Lancet*, April 24.)

The author discusses the merits of the various operations hitherto employed for the relief of chronic inversion of the uterus, tabulates the cases in which operations have been resorted to and which are not recorded in Mr. Gregory Forbes's memoir in the *Medico-Chirurgical Transactions*, adds these cases to Mr. Forbes's tables, and compares the results of the different methods. Of cases treated by ligature only, twenty-six were successful, ten unsuccessful, and of the latter eight died; of cases treated by ligature and excision, nine were successful, and three ended fatally; of cases treated by excision only, three were successful, and two died; of cases treated on Tyler Smith's plan, by sustained elastic pressure, six successful cases had been published; and of cases treated by forcible taxis; some had proved successful, but three had died. The ligature and excision were open to the double objection that, besides being very hazardous to life, success was only achieved at the expense of mutilating the patient. Forcible taxis was a violent and often fatal proceeding. Sustained elastic pressure had given remarkable results, but cases would occur where the constricted cervix uteri would resist simple pressure. The author related a case of inversion of six months' standing which resisted elastic pressure kept up during five days; and in which he resorted to a plan, thus practised he believed for the first time, of making three longitudinal incisions into the os uteri, so as to relax the circular fibres; taxis then applied quickly succeeded. The woman made an excellent recovery. The author proposes, as the best proceeding where simple sustained elastic pressure fails, to make an incision on either side of the os uteri, and then to reapply the elastic pressure, as being safer from the risk of laceration than the taxis.

ART. 261.—*A Case of Chronic Inversion of the Uterus.*

By Dr. v. SCANZONI.

(*Scanzoni's Beiträge*, 1868; and *British and Foreign Medico-Chir. Review*, January.)

Professor Scanzoni relates with great minuteness an interesting case of chronic inversion of the uterus. The subject had borne three children normally, the placental being always cast without assistance. Several years after the last labor she began to suffer from metrorrhagia, and mucous discharges, often offensive. A fleshy body came through the vulva. This was replaced. The discharges increased so as to render the patient's position critical, and she was admitted into the Wurzburg hospital. The tumor in the vagina had been twice mistaken for a polypus. Scanzoni insists upon the following points in reference to the diagnosis: 1. The impossibility of passing sounds variously curved so high above the tumor as to pass into the uterine cavity. 2. The evidence of a soft pouch surrounding the stalk of the tumor. 3. The possibility of feeling by means of a finger in the rectum the point of a catheter passed into the bladder, and thus proving the absence of the uterus from its proper place. 4. The circumstance that, either with or without the above-named manœuvre, a fan-like body, small below, spreading out above, is felt above the vaginal roof, and which may on careful examination be recognized as the packet of Fallopian tubes, ligaments, and vessels proceeding to the sides of the pelvis; and lastly, the possibility by dragging down the tumor, of unfolding the folds surrounding the stem, so as to be convinced that the upper part of the stem is directly continuous with the roof of the vagina.

Scanzoni determined to remove the uterus. He applied Maisonneuve's écraseur; and having tightened this around the stalk, he cut off the uterus with a bistoury below the constriction. The chain was left on, perchloride of iron was applied to the stump. The chain fell off on the fourth day. Symptoms of peritonitis set in, and the patient died on the seventh day.

On section, pelvic peritonitis was found. Douglas's pouch was filled with purulent fluid; the os uteri was gaping, opening directly into the peritoneum. The amputated uterus inclosed a cavity, out of which the stumps of the broad ligaments, Fallopian tubes, and several vessels projected. In the anterior wall of the uterus was a hard fibroid tumor the size of a pigeon's egg. Attempt to reinvert the uterus with the fingers failed.

Scanzoni tabulates 58 cases under heads. The first includes 16 cases of removal of the uterus by ligature, ending successfully. The second includes 7 cases of removal by ligature, ending fatally. The third includes 2 cases of excision ending successfully. The fourth 6 cases of excision ending fatally. The fifth includes 22 cases of removal by ligature and excision ending successfully; and lastly, 5 cases of removal by ligature and excision ending fatally. He rejected the idea of trying to reduce the uterus, successfully practised by Tyler Smith, on the grounds that the attempt must cause great irritation of the vagina, and that hitherto its reduction had never succeeded when the inversion was caused by a tumor in the uterine wall.

Art. 262.—*On Retroflexion of the Uterus.*

By Lombe Atthill, M.D., Fellow and Censor King and Queen's College of Physicians; Ex-Assistant Physician Rotundo Lying-In Hospital, Dublin.

(*Dublin Quarterly Journal*, February.)

In this paper Dr. Atthill draws the following inferences:—

1st. That retroflection of the uterus is a common affection, and that it is met with both in married and unmarried females.

2d. That it is a secondary, not a primary, affection.

3d. That when it is due to chronic inflammation or congestion of the uterus, terminating in hypertrophy, the catamenia are diminished in quantity, and frequently painful.

4th. But that when retroflexion is the result of subinvolution of the uterus, following labor or abortion, the catamenial discharge is increased in quantity, sometimes even to an alarming degree.

5th. That in addition to the symptoms common to all forms of uterine disease—namely, pain in the back, sense of weight, &c.—we have not unfrequently, where the uterus is retroflected, reflex irritation of the bladder, stomach, and breasts, occurring as to frequency in the order given, and also constipation of the bowels.

With regard to treatment the author says, medicines are of but little value, save so far as the general condition of the patient may call for the exhibition of tonics. The displaced organ must be restored to its proper position, and retained in it. This should always be the first step, unless, as occurs in a comparatively small number of cases, there be so much local inflammation present as to render the application of leeches or other antiphlogistic treatment necessary. The raising the fundus to its normal position is generally effected without difficulty, unless, as occasionally occurs, it has become fixed in consequence of repeated attacks of pelvic inflammation. Under such circumstances treatment is of little use, and unfortunately these are the cases in which the sufferings are greatest. To retain the uterus in its proper position the patient must wear a pessary, and, in Dr. Atthill's opinion, none is equal for that purpose to Hodge's ring pessary. Care must of course be taken to use one of proper size, and adapted to the calibre of the vagina. Too large a one will give pain, too small a one will be useless. Sometimes it is, however, necessary to allow the patient to wear a small one for a few days till the vagina becomes accustomed to its presence, when it should be replaced by a larger one. The pessary once

introduced should be worn for a considerable time. Its presence seldom interferes with the use of a speculum, should it be found necessary to have recourse to local treatment. Maintenance of the recumbent, where it can be carried out the prone, posture by some considered alone sufficient for the cure, is in all cases an accessory measure of much importance.

Art. 263.—*Results of Transfusion.*

By Professor Landois.

(*Medical Times and Gazette.*)

Professor Landois, of the University of Greifswald, who had interested himself much in the subject of transfusion, after giving a critical account of the most recent publications on the subject, thus sums up, in a recent number of the *Wien. Med. Woch.*, the results that have hitherto been obtained :—

1. Transfusion has been performed ninety-nine times in cases of hemorrhage, in eleven of which cases no successful result was even possible. Of the remaining eighty-eight cases, sixty-five were attended with success, twenty were unsuccessful, and in three the result was doubtful.

2. It has been performed twelve times in cases of acute poisoning, one of these being hopeless. In three the results were favorable, and in eight unfavorable.

3. For various forms of disease attended with exhaustion, it has been resorted to forty-three times, the most unfavorable prognosis having been frequently delivered. In these the results were favorable in twelve, unfavorable in twenty-one, and doubtful in nine, while in one case it was a mere desperate experiment.

Professor Landois observes that these statistics speak very satisfactorily for transfusion, and that the results would be far more favorable if this almost harmless operation were not usually driven off to the last minute.

Art. 264.—*Diagnosis of Partial Rupture of the Uterus.*

By C. Hecker, M.D.

(*American Journal of the Medical Sciences*, January.)

Dr. Hecker, in the *Monatsschr. f. Geburtskunde*, remarks that the partial rupture of the substance of the womb without implicating the peritoneal coat, is an accident scarcely less serious than when the rupture is complete, but unattended by the alarming symptoms which mark the occurrence of the latter. In general an unexpected fall in the size, with increase in frequency of the pulse, is perhaps the most decisive indication of the occurrence of partial rupture of the uterine walls. Among the local symptoms Dr. Hecker enumerates one nevertheless as of a very negative character, the sudden occurrence of an hæmatocele situated between the walls of the uterus and peritoneum. Dr. Hecker met with this in two cases. In the first the partial rupture was caused by the presence of a hydrocephalic fœtus; in the second it was the result of medullary carcinoma of the posterior lip of the os uteri. In both cases during labor, the upper wall of the vagina was found to be pressed downwards by a soft elastic tumor. In the first of these cases no examination of the body after death was permitted; but in the second the swelling in the vagina was found to result from an effusion of blood beneath the peritoneum.

ART. 265.—*On the Relation of Albuminuria to Puerperal Convulsions.*

By P. M. HASTINGS, M.D., Hartford.

(*American Journal of the Medical Sciences*, January.)

The most important portion of this paper is that devoted to a consideration of the treatment of puerperal eclampsia. According to the author, the arrest of the disease will depend largely upon the prompt administration of active purgatives. Purgation, he remarks, is generally well borne, and marked relief from the form of toxæmia present is pretty sure to follow its operation. The compound powder of jalap and croton oil, assisted by stimulating enemata, he considers as among the best purgatives we can employ. Removal of the child, when it can be done readily, and without much violence, is our first duty. If the patient is plethoric, bleeding may prove of great service. In a large proportion of the cases that fell under Dr. Hastings's observation, he would consider general bloodletting to be injurious, tending to prolong convalescence. By the free use of chloroform we are enabled, excepting perhaps in cases of serious effusion or of true apoplexy, to control effectually the convulsive paroxysms, and thus gain an opportunity for the use of the remedies designed to remove their cause. After purgation, the free use of opium, combined in some cases with colchicum, will prove of great value. Bromide of potassium has recently been recommended as a valuable remedy. Dr. Hastings has no doubt that it will prove of great benefit in cases where opiates are not well borne.

ART. 266.—*Ovarian Cystic Tumor Cured by Bromide of Potassium.*

By JOHN MILLAR, M.D., F.R.C.S. Edin.

(*Edinburgh Medical Journal*, November, 1868.)

Dr. Millar relates a case of this which is interesting, as it serves to show that bromide of potassium exercises an influence by its deobstruent powers in absorbing and removing the fluid contents of an ovarian cyst.

The subject of the case was a widow, aged 48, mother of six children, who came under Dr. Millar's care in August, 1866. She had enjoyed good health up to that time, but then complained of weight in pelvic region, with loss of flesh and strength. Tonics were given without much benefit; the pelvic symptoms increased and there was difficulty in making water. On examination then per vaginam and rectum, a small defined tuberose tumor was felt in the left ovary. This enlarged, the patient's health suffered, and February 1st, 1867, Dr. Millar tapped her and drew off 80 oz. of a dark-colored serous fluid. This afforded considerable relief at the time; but two days afterwards the patient complained of very acute pain in the region of the tumor, preventing sleep; nausea supervened with vomiting, and Sir James Simpson was called in consultation on the 6th of February, 1867. After a careful examination of the abdomen and the state of the patient, Sir James Simpson recommended the trial of the bromide of potassium in small doses, 5 grs. three times a day, with ice for the severe sickness and vomiting. Hot poultices, sprinkled with turpentine, were constantly applied to the left side, which was the seat of pain. Under the use of the bromide of potassium, the pain gradually diminished, but with the absence of pain there seemed to be a tendency to a return in size of the tumor, as some fulness was evident on examination in the left side.

Anticipating a return of the serous fluid, Sir James Simpson, the next time he saw the patient, on the 20th February, recommended the dose of the bromide of potassium to be doubled, which it accordingly was to 10 grs. three times a day, with very beneficial results, as the tumor within a few weeks became palpably diminished in bulk. During this period the patient perspired very copiously, and passed a large quantity of very dark-colored urine. This im-

provement gradually went on during February and March, until the beginning of April, when she was prostrated by an acute attack of gastritis, brought on by indulging in a glass of porter—a beverage so long forbidden that she could not resist the temptation with her returning strength to partake of it. Under the use of appropriate remedies the attack subsided, but became prolonged into a chronic condition, due to her constitutional weakness, during which time she had to be supported principally by nourishing enemata. As the use of the bromide of potassium was during this attack of gastritis suspended, the tumor, which had been reduced to a very small compass, gradually resumed its former size and bulk, so that in the latter end of May she presented very similar symptoms to those she experienced in January—so much so, that Dr. Millar was under the impression that it would be again necessary to tap her. However, he again consulted Sir James Simpson, who recommended the renewal of the bromide of potassium in larger doses than before, so that she now received 15 grs. three times a day with marked benefit; and not only so, she had less repugnance to the medicine than formerly, as she insisted that the nausea, of which she had reason to complain so much, was due to this medicine, and was therefore unwilling to renew it; but with a larger dose she experienced none of the former sickening effects. Dr. Millar observes that a similar thing happened in another of his patients, who for nervous debility was ordered the bromide of potassium, and who under small doses took a great repugnance to the medecine; but on its renewed in larger doses, she experienced none of the sickness and nausea with which she was previously troubled.

Under the continuous use of the bromide of potassium the tumor gradually diminished in size; and wishing to mark the progress of the diminution, the patient was desired to measure the width of the abdomen on a level with the umbilicus, when, within three weeks, from the last week in May to the third week of June, the decrease was from forty-eight inches to thirty-three inches. At the same time her general health greatly improved, the extreme tenderness of the abdomen which followed the acute pain she suffered in the beginning of the year also entirely disappeared; so much so that she was able to sit up in bed, and bear the pressure of her stays. The difficulty in making as well as retaining her water entirely disappeared; and it was only on examination, per rectum, that a small excrescence on the left ovary could be felt—the shrivelled remains of the ovarian cysts. In the beginning of July the patient was able to leave her couch, and by the end of that month she was sufficiently strong to go out and undergo without fatigue a moderate amount of exercise. Within a short time afterwards she returned to her usual occupation and domestic duties, and since then has, with the exception of one or two attacks of bronchitis, enjoyed pretty good health. At present her health is not very robust, yet she is able to go about her usual avocations; and with the exception of now and then feeling a sense of weakness in the left side, no traces remain of her former complaint.

(c) CONCERNING THE DISEASES OF CHILDREN.

ART. 267.—*On the Ophthalmia of New-born Children.*[1]

By Dr. DESORMEAUX.

(*Gazette Hebdomadaire*, No. 4, 1869.)

The following conclusions are given at the end of M. Desormeaux's paper:—

1st. Under the denomination of purulent ophthalmia of infants have been confounded several different affections, as the catarrhal ophthalmia, the blennorrhagic ophthalmia, the diphtheritic ophthalmia, and finally, a special form of ophthalmia, *the malignant ophthalmia of new-born children.*

2d. This last form of ophthalmia is developed in new-born children under

---

[1] Communicated to the Académie de Médecine.

epidemic influences and by contagion; in children of more advanced age and in adults it is always the result of contagion.

3d. It has for a pathognomonic symptom the secretion of a saffron-colored serosity, the coloration of which is not due to a mixture of blood, and which stains linen deeply.

4th. This symptom exists only at the commencement of the affection.

5th. This affection, the march of which is very rapid, terminates in a few hours in loss of the eye. If it be arrested, but not cured, by an insufficient treatment, it may be prolonged for some time, but never gives place, like blennorrhagic ophthalmia, to conjunctival granulations.

6th. It habitually affects both eyes at the same time.

7th. The only suitable treatment is the eye-douche, frequently repeated, and followed by the instillation of weak collyria.

Art. 268.—*Belladonna in Infantile Icterus.*

By J. Waring-Curran, L.K.Q.C.P.I., &c.

(*Medical Press and Circular*, September 9, 1868.)

Dr. Waring-Curran is of opinion that the bile in cases of *infantile icterus* is not *suppressed* in its secretion, but that it is *retained*, that the liver and gall-bladder become surcharged and distended, that little if any bile passes through the *ductus communis choledochus*, and he has reason to think that the mischief lies either in the duodenum or common bile-duct—that a spasmodic condition of these parts, from the irritation or passage of the bile through the delicate structures, is the cause of the mischief. The duct becomes spasmodically closed, the bile, instead of being eliminated as it is secreted, is blocked up in the liver, and we have re-absorption of it taking place into the blood.

A few months ago Dr. Waring-Curran had the opportunity of making a post-mortem examination of a child aged seven days, who died from an injury to the head produced by falling from the nurse's arms. It had been previously out of health, and from the generally tinged condition of the skin, Dr. Curran was induced to examine the liver. He found it preternaturally large, distended with bile, and in carefully examining the duodenum and common bile-duct, he found the duct narrowed, and the characteristic tinge made by fresh bile entirely absent. He came then and there to the conclusion that the duct had been spasmodically closed during life, and thus the egress of the bile prevented.

That Dr. Waring-Curran has been correct in his opinion is best exemplified, he says, by the immediate relief afforded in the treatment of similar cases by tincture of belladonna in two-drop doses. After its administration there is an end to the incessant crying, the child falls asleep, passes bile freely by the bowels, and rapidly recovers its natural state and condition. The administration of calomel he considers unnecessary and cruel. The act of secretion has gone on naturally enough. The elimination of the bile is what is required, and for this purpose tincture of belladonna will be found expeditious and curative, by overcoming the spasmodic condition of that portion of biliary apparatus so frequently affected in children a few days after birth.

Art. 269.—*On Convulsions in Children.*

By Samuel Gee, M.D.,

(*St. Bartholomew's Hospital Reports*, vol. iii.; and *British and Foreign Med.-Chir. Review*, October.)

In this paper, Dr. Gee gives a summary account of 102 cases of epileptiform convulsions in children, and he divides them into three classes, according as their causes are local, general, or uncertain. In 24 cases the convulsions were

apparently sympathetic of local disease in or near the cerebrum, such as tumors, abscesses, disease of the vertebræ, &c. In 73 cases, 1 was caused by anæmia, 1 by uræmia, 12 by acute specific diseases, as scarlet fever, measles, &c.; 1 by syphilis, 1 by exhaustion from a large ulcer, and 1 from chronic Bright's disease, but 56 were unaccounted for, and they are classed under the head of convulsions depending upon the general condition of the child. Dr. Gee considers that many cases of essential convulsions (eclampsia) are associated with a constitution tending to rickets. After giving a brief abstract of the 53 cases, Dr. Gee remarks that hypertrophy of the brain sometimes coexists with rickets; that sometimes enlargement of the cranial cavity occurs in rickets, without the brain being enlarged at the same time; that in reference to dentition, the backwardness of the teeth and the tendency to convulsions are sometimes concomitants of the rickety diathesis, and that in several cases the occurrence of measles did not produce fits, although the children had been subject to them previously. The cases of convulsions of uncertain origin were only five in number. The treatment adopted in most of the cases consisted in the administration of the bromide of potassium or ammonium (for a child, for instance, of a year old), in doses of four grains three or four times a day, and when the fits had ceased, of cod-liver oil and vinum ferri.

ART. 270.—*On Tracheotomy in Children; its Method, its Dangers, and its Difficulties.*

By F. HOWARD MARSH.

(*St. Bartholomew's Hospital Reports*, vol. iii.; and *British and Foreign Med.-Chir. Review*, October.)

In this paper Mr. Marsh records the conclusions at which he has arrived chiefly from his experience as House Surgeon at the Hospital for Sick Children. In the first place, he combats the objections which have sometimes been made against the operation, and he concludes that it can be as deliberately performed as any other surgical proceeding, that the struggles of the patient may be obviated by chloroform, and that the apprehension of dangerous hemorrhage has been exaggerated. After a brief but careful description of the structures concerned in the operations for opening the windpipe, he draws a comparison between laryngotomy and tracheotomy, declaring his opinion to be in favor of the latter as being on the whole more efficacious, although laryngotomy is most easily performed. But laryngotomy affords but little space for the introduction of the tube, it injures the integrity of the larynx and the vocal apparatus, and the tube causes great irritation and distress. In tracheotomy, few structures of any very great importance are involved. the tube is easily introduced, and the risk of hemorrhage is but slight. Mr. Marsh then points out the spot most suitable for the operation, which should not be too low down on the one hand, where the trachea is very deep seated, nor too high, where the thyroid gland is placed, and which it is expedient not to wound. The tube to be employed is then described, and the different steps of the operation are minutely related, together with the after-treatment, so far as surgical ministrations are concerned. Some cases are then recorded in which the operation was performed, and in some the proceeding was successful; in others, where the result was less fortunate, the causes of the failure are pointed out. The patient may die from the constitutional disease for the relief of which the operation was performed, or from the local effects of the operation itself, and sometimes in cases which promise well, some accidental circumstance produces a fatal result, as where a portion of false membrane becomes entangled in the canula. Ulceration about the wound, or of the trachea around the canula, is also a more common result and a more frequent source of danger than is generally supposed, and Mr. Marsh has notes of nine cases were this complication occurred.

Art. 271.—*A Case of Hæmaturia in a New-born Infant.*

By J. D. Smith, M.D.

(*Nashville Journal of Medicine and Surgery*, June, 1868; and *New York Medical Journal*, October.)

This case, from its rarity, is deserving notice. A male infant, large, well developed, and apparently healthy, forty-five hours after birth, while suffering much as does a child with colic, passed about half an ounce of blood from the urethra. The hemorrhage recurred five times within twelve hours. At the end of this time Dr. Smith saw the case, and gave one drop of tinct. ferri muriatis every hour, and continued the use of an infusion of water-melon seeds, which had been adopted as a domestic remedy. The hemorrhage recurred twice within the next twenty-four hours, when there was a copious flow of urine, the first since the hemorrhage commenced.

The discharge of blood now gradually checked up, passing only in sufficient quantity to color the urine, which in two days more was entirely clear. The whole quantity of blood lost, Dr. Smith thought, could not have been less than four or five ounces, the father thinks much more. The child took the breast freely during the entire attack, except when in pain just before the passage of blood from urethra. The pulse remained very weak, and the child anæmic during the attack, and for some days afterwards, but there were no other abnormal signs to be discovered.

Now, whence the source and what was the cause of the hemorrhage? It might be said that if it had been from the kidneys it would have been mixed with urine. But little or no urine passed during the time, and when the kidneys acted freely the hemorrhage measurably ceased, which arrest of function is an indication that the kidneys were in a state of congestion. Could it have been the result of urinary calculus formed in the kidney during intra-uterine existence? If so, why has there not been further evidence of such a formation? Could it have been the result of the hemorrhagic diathesis? If so, would the blood have coagulated so rapidly? The mother, and the midwife who attended the case, both stated that it could not have been from mechanical injury, for the child had received no shock or concussion whatever.

Art. 272.—*A Case of Diabetes in an Infant.*

By James L. Brown, M.D.

(*The American Journal of Obstetrics*, May, 1868.)

The subject of the disease was a little girl under two years of age, who was born of healthy parents, and was herself remarkably healthy until about the twentieth month of her age, when her mother first noticed that she appeared to pass more water than usual, especially at night, and that she drank a great deal; but as her health seemed to be perfect in every other respect, this did not attract any particular attention.

It was not until five or six weeks after this time that her health seemed to be perceptibly deteriorating, and that Dr. Brown's attention was first called to her.

On examination the urine was found to be of high specific gravity and very saccharine.

The appetite continued to be good, but there was a perceptible loss of flesh, and an obvious diminution in strength. The temper too began to be fretful and peevish, and the child was evidently out of health, though not appearing to be *sick*. About a week or ten days after this an erythematous eruption began to make its appearance on the buttocks and around the vulva, and subsequently become a source of much discomfort. There was also a peculiar fetor of the breath, not unlike the odor of chloroform, which became stronger as the disease progressed, and was one of the most marked features of the case. The child was

still well enough and strong enough, however, to run about and to engage in its usual amusements, but with much less than its usual ardor. Her cheeks were still full of color, and her figure tolerably plump, and she yet retained the appearance of a healthy child. In three weeks more she was dead. There was a progressive loss of strength, a rapidly increasing emaciation, a gradual failure of the appetite, occasional febrile attacks of a few hours' duration, and death from simple exhaustion. There was no cough, no diarrhœa, no symptoms of cerebral disorder, and in fine, no complication whatever. She was confined to her bed only four days, and just a week before her death went out with her mother and walked a couple of blocks. The amount of urine passed during the last three weeks of her life averaged about five pints per day. Its specific gravity ranged from 1030 to 1036, and it never contained albumen at any time.

A post-mortem examination of the body was made by Dr. Jacobi, who saw the child about two weeks before her death. He found the brain large and well developed, having numerous and deep convolutions. That part of the arachnoid covering the anterior two-thirds of the hemispheres was not perfectly transparent, and there was considerable injection of the dura mater, and in fact of nearly the whole encephalon. There was some thickening of the arachnoid in the fissure of Sylvius, and a few granulations having the appearance of very recent miliary tubercles. The ventricles contained very little fluid, and were entirely normal. The choroid plexus contained hundreds of miliary tubercles. On first inspection the lungs presented nothing abnormal, but a closer examination discovered a number of little dots, just visible, which were evidently newly formed tubercle. The spleen was found studded with miliary tubercles, their number and development being much greater here than in any other part of the body.

Nothing abnormal was found in the liver or kidneys, except that the right kidney was somewhat larger than the left, and that the cortical substance of the left was more congested than that of the right. These were the only lesions found, and being all of recent origin and obviously secondary to the diabetes, the results of the autopsy, so far as the primary disease was concerned, were entirely negative. In a disease of which the pathology is so obscure, any circumstance that bears even remotely upon it may prove of importance. The diet of this child from the time that she was weaned consisted almost exclusively of food abounding in starch; she appeared to thrive so well upon it, and showed such a marked preference for it, that but little else was given her.

This fact, Dr. Brown says, may have had no influence in producing the disease, but it seems to merit special mention, particularly as diabetes is an affection that seems to be much more prevalent in some countries than in others, the difference being apparently due to a difference in the dietetic habits of the people.

Art. 273.—*On Bromide of Potassium for Diseases of Children.*[1]

By M. Moutard-Martin.

(*Gazette Hebdomadaire*, No. 50, 1868.)

The practitioner is repeatedly called to see infants, in other respects healthy, who during the early months of their existence cannot rest, and who wear out, in consequence of loss of sleep, those who are about them: there are other children who sleep during the day, but never at night. In these cases, when tepid baths, infusions of poppies, orange-flower water, &c., have failed, bromide of potassium succeeds in a remarkable manner.

M. Moutard-Martin quotes several cases in support of the sedative action of the bromide of potassium in very young subjects, and derives from these facts the following conclusions:—

---

[1] Communicated to the Académie de Médecine.

1. Bromide of potassium, when administered in moderate doses (from 5 to 20 centigrammes), is perfectly tolerated by young children.
2. In consequence of its sedative action it cures the insomnia of young patients.
3. When administered to children who present the occasional affection at the period of dentition, characterized by restlessness, insomnia, and cough, it frequently succeeds in calming the bad symptoms, and may probably, when administered with prudence, prevent sometimes the occurrence of convulsions.
4. Bromide of potassium cannot be administered to children who have diarrhœa.
5. In certain exceptional cases where nervous erethism is predominant, the bromide may exert a prompt and decisive action.

ART. 274.—*Simple Mode of Performing Artificial Respiration in Asphyxiated Children.*

By C. HANDFIELD JONES, M.D., Physician to St. Mary's Hospital.

(*The Practitioner*, March.)

Dr. Jones writes: "During my presence at a confinement (in my own house) the child was born with several turns of the cord round its neck, and after it was released from these it lay with a swollen, livid face, and no attempt at respiration. As soon as possible I laid it down on its back, and made pressure on its abdomen; then raised it upright on its seat; again laid it down and pressed the abdomen; again raised it upright, and so on. In the recumbent position the diaphragm was of course pushed upwards, and expiration was imitated; in the sitting erect position the weight of the liver and abdominal viscera drew the muscles down, and inspiration was accomplished. The efficacy of the procedure was evinced in a very short time by the young gentleman making such vigorous use of his lungs that his cry was distinctly heard on the second floor below where he was."

ART. 275.—*On the Wasting Diseases of Infants and Children.*

By EUSTACE SMITH, M.D. Lond., Physician Extraordinary to the King of the Belgians.

(*Medical Times and Gazette*, November 28.)

In this work Dr. Eustace Smith especially points out that the terms "wasting," "marasmus," &c., are often very improperly used. He observes: "It is not uncommon to hear that a child has been given over for this supposed complaint (mesenteric disease) when he is in reality suffering from nothing else than *bad feeling*, with derangements of the bowels as its natural consequence. . . . Setting aside the extreme rarity of mesenteric disease, there remains the fact that the distension of the abdomen is by no means a necessary consequence of this disease. On the contrary, unless the glandular disease be great, the abdominal wall is more often retracted than expanded. . . . If the increase in the size of the glands is sufficiently great to produce a distinct tumor, the swelling is seated about the umbilicus, and does not occupy the whole abdomen." What then gives rise to the emaciation so often met with in infancy? Not one, but various diseases—chronic diarrhœa, rickets, worms, chronic tuberculosis, and congenital syphilis—and these diseases too frequently have their stimulus in a defective nutrition. "Wasting is a sign of defective nutrition," and in every case the cause should be inquired into. It may be unsuitable food; the child may be prevented from assimilating an ordinary digestible diet by some unhealthy condition of the alimentary canal, or some constitutional defect, as the existence of tuberculosis or congenital syphilis, may interfere with the proper nutrition of the tissues. It is very essential therefore to

detect the earliest symptoms of wasting, and to search out its cause. In the majority of cases it can be traced to improper feeding, and therefore a strict regulation of the diet is indispensable. "Tonics given to a child whose bowels remain disordered are *perfectly useless*, for, so long as derangement of the alimentary canal continues, nutrition cannot be restored, on account of the impediment thus presented to the digestion and the assimilation of food." The strictest attention should be given to regulate the diet, to arrange the quantity and the times for taking food, of course removing by medicine any improper food which may have been previously taken. In aid of a regulated diet, strict attention to the skin is necessary. For this purpose warm baths, followed by continued friction over the body for some time, will be found of great service, and in cases of chronic disease stimulating liniments and cod-liver oil. By these means the circulation is rendered more vigorous and the healthy action of the skin promoted. But discretion is needful in the use of counter-irritants to young children, for "an irritant which in a healthy child would produce only a moderate degree of redness will often, where the strength is much reduced, set up very great inflammation, or even produce sloughing of the tissues. . . . Blisters are inadmissible for infants."

Having given this general outline, the author proceeds to consider the various results which follow from defective nutrition; and first, "simple atrophy," which he states is "an exceedingly common condition." The supply of food may be actually deficient, as is often the case when the child is nourished entirely by the breast, but the milk of the mother is poor and watery. When she is weak, anæmic, and evidently ill-nourished, the milk must suffer; but there are cases where the health and general appearance present no signs of weakness, and yet the milk is of inferior quality. "From the researches of MM. Vernois and Becquerel, we find that the richest milk is far from being secreted by women of the greatest muscular development. On the contrary, their investigations tend to show that a robust figure is inferior in milk-producing power to one slighter and apparently less vigorous." Besides those cases where the quantity of food is at fault, there is another class where nutrition is equally unsatisfactory, although the supply of food is liberal enough. For instance, where weaning is premature, or where the child has been brought up by hand and the food improperly selected, "a child is not nourished in proportion to the bulk of food he receives into his stomach." He may take large quantities of food into his stomach, and yet, from weakness of his digestive organs or from the indigestible nature of the food swallowed, may derive no nourishment from it whatever; on the contrary, it may cause great irritation and pain, and reduce the child it was intended to support. The author says: "It is the tendency of mothers to overfeed their children—to mistake every cry for the cry of hunger. Consequently the peevishness and irritability of the child increase in proportion to the pain excited in the bowels; the food is made more and more nourishing, and the louder the cry the thicker 'the sop,' until at last a violent attack of vomiting or diarrhœa takes place, or a convulsive fit warns the parent it is time to desist."

In nutrition it is important that changes be rapid. These are effected by the oxidation of the old material, which is then removed to be replaced by new matter. It is indispensable, therefore, that no needless impediment should exist to the free oxidation of the tissues. "Now, starches and sugars, into which starches are converted by digestion, have a greater affinity for oxygen than albuminates. They therefore tend to appropriate the oxygen which is required for the removal of waste matters, and so prevent the proper change taking place." For this reason alone, besides their indigestible properties, food composed chiefly of starches is very improper diet for a young child.

Under the head "Treatment" the author makes some very valuable remarks on nursing. He then proceeds to the consideration of infantile diseases, many of them the result of improper diet—for instance, chronic diarrhœa and chronic vomiting. Rickets he shows to be also an effect of malnutrition, and worms a consequence. Other constitutional diseases the author classes with these, as tuberculosis, phthisis, congenital syphilis.

ART. 276.—*Treatment of Hydrocephalus.*

By TIMOTHY HOLMES, F.R.C.S., Surgeon to the Hospital for Sick Children.

(*Surgical Treatment of Diseases of Infancy and Childhood.*)

With regard to the treatment of hydrocephalus, Mr. Holmes gives the following practical directions, which he believes to be the best that can be laid down from present experience:—

"1. As a general rule, nothing ought to be done beyond supporting the tumor and making gentle pressure by means of some bandage or cap, lined with cotton wool, to prevent ulceration. Perhaps as convenient a form as any other is to apply a gutta-percha cover on the tumor, and line it with layers of wadding, which can be gradually increased in number as the tumor yields to pressure.

"2. If there are obvious symptoms of general hydrocephalus, no operative measure is admissible.

"3. If there be a watery tumor which is rapidly on the increase, without other symptoms, repeated puncture may be tried; all possible precautions against the entrance of air being taken.

"4. If this method fails, the injection of iodine may be tried. Those cases appear to be best fitted for this method in which the tumor, as far as can be judged, is free from the presence of cerebral matter, and has a stalk or pedicle.

"5. All irritating applications to the skin are worse than useless. They cannot cure the disease, and may easily produce sloughing of the skin, and so burst the tumor and cause death.

"6. Finally, there may be cases, however rare, in which the entire removal of the tumor might be contemplated. If the communication with the interior of the skull has become obliterated, the case is converted into one of ordinary cyst, with no more danger, and at the same time no more urgency, about the operation than in common tumors. . . . In other cases, if it be determined to remove a tumor the pedicle of which is believed to have a communication with the cerebral cavity, the best method of operating would perhaps be to provide a clamp with narrow flat blades, something like that which is used by some surgeons in operating for piles. This clamp should be placed on the stalk of the tumor. The cyst could then be tapped, and as the fluid escaped, the blades of the clamp might be tightened, in order, if possible, to bring all parts of the inner surface of the pedicle into contact with each other. This being done, the tumor should be removed, two small flaps of skin being preserved to cover the opening. These flaps being united carefully (by the continuous suture), the operation would be terminated. The clamp could be removed after a certain time, say twenty-four hours. Its application would be intended to produce such an amount of inflammation and extravasation of lymph as may procure the obliteration of the pedicle without so much or such long-continued pressure as would cause ulceration of the skin."

ART. 277.—*Treatment of Rickets.*

By BERNARD E. BRODHURST, F.R.C.S., Lecturer on Orthopædic Surgery at St. George's Hospital.

(*The Lancet*, November 14.)

The *treatment* of rickets, Mr. Brodhurst says, consists in the employment of all such measures as conduce to the restoration of health—namely, warm clothing such as flannel next to the skin, and enveloping the trunk and extremities; a diet composed mainly of animal substances, and a dry and pure air. To these may be added tepid bathing, as well as cod-liver oil and one or other of the various preparations of iron. Constipation and diarrhœa, which are so frequently present in this affection, are to be met, not by the exhibition of drugs,

but by a careful regimen. It is rare, indeed, that strict attention to diet will not, at least in the commencement of rickets, be sufficient in itself to regulate the secretions, and restore a state of healthy nutrition; but should it not be sufficient to effect this purpose, then recourse may be had to the nitro-muriatic acid bath, which, when used occasionally, and as it may seem to be required, is of great value in these affections.

The *surgical treatment* of curvatures of the tibia and femur, and knock-knee may be explained in very few words. It consists of the application of splints or supports to the bent limbs. These are placed on the inner side of the curve, and pressure, by means of webbing bands, is thus readily applied to the outer side of the curve. In genu extrorsum, or outward inclination of the knee, the femur is curved outwardly as well as the tibia. In this deformity, therefore, the support should reach on the inner side of the curve to within two inches of the pubic bone. It should be made of metal, and as light as is compatible with the requisite strength, with a joint to correspond to the knee-joint, and its lower end should be inserted into a socket, which is let into the sole of the boot. Where the bones of the leg alone are curved, the support should reach from the inner condyle of the femur, to be let into the sole of the boot, as in the case before-mentioned. In both cases a pad should be so placed as to correspond to the internal malleolus, so that pressure may not cause injury to the integument. It is easy in this manner to remove this outward curve of the leg-bones. But together with an outward curve, there is not unfrequently found a forward curve also, and it is much more difficult to remove this anterior curve than it was to act on the outward curve. This anterior curve should be treated by means of a well-padded splint, and pressure should be made gradually, and increased very slowly; for in this position, the bone being sharp, and lying immediately beneath the skin, pressure would readily cause a slough. To act on such a curve efficiently, pressure should be exerted only in the horizontal position, and the child should not be allowed to stand until the curve be removed. The same system is to be adopted in the application of splints to the humerus and the radius and ulna. In all these cases the apparatus should be provided with joints which correspond to the articulation of the limb, and which allow, consequently, of motion at the same time that such pressure as is necessary is applied to the curved bone. It is, of course, to be understood that this treatment, when applied to rickety bones, is to be used before Nature's cure is effected; for as diarrhœa ceases together with night-sweats, and the functions of digestion are performed in a more healthy manner than heretofore, the epiphyses begin to diminish in size, and the salts of lime then are again deposited in the bones, so that they not only acquire their normal strength, but become endowed with much greater solidity and consistence than in their normal condition. The phosphate of lime then is deposited in abundance, especially on the inner side of the curve, and this deposition greatly increases the weight and strength of the bone. This is the cure which Nature performs. When this has been effected, the curves which existed remain unalterable. These observations apply, however, alone to rickety bones, and not to those curves which are induced in the long bones as a result of debility.

Genu valgum, or knock-knee, requires support on the outer side of the limb. This support is, perhaps, best given by means of a metal stem, which is fitted above into a band which encircles the pelvis, and below into the sole of the boot; joints correspond to the articulations of the limb, and one or more bands support the knee. In severe cases it is advantageous to attach a cogwheel to such an instrument, that the direction of the stem may be altered as the limb yields. In cases where such an apparatus is necessary, the child should be kept in the horizontal posture during almost the whole day. Exercise may be allowed, but it should be used sparingly. In a severe case in the adult, it is necessary to divide the outer hamstring.

The mode of division of the biceps tendon is as follows: The patient, lying on his face, will endeavor slightly to bend the knee, which will cause the muscle to spring into action, and make the tendon tense. The tenotome will then be introduced beneath the tendon from the centre towards the outer side of the

limb, and, being guided close to the tendon, it will pass between it and the peroneal nerve. The edge of the knife will then be directed upwards towards the tendon. So soon as the tendon is divided, the peroneal nerve becomes prominent, and a tyro may even doubt whether the tendon has really been divided. If care has been taken to pass the knife fairly and fully beneath the biceps tendon, on using a cutting motion the tendon will certainly be divided, and the knife may be felt covered only by the integument. The knife should then be withdrawn, and on no account should it be reintroduced. The temptation has sometimes been felt to be so strong that the knife has been reintroduced, and the nerve divided. Paralysis has, of course, followed. The puncture should be carefully closed, and the limb bandaged; and in the course of three or four days, when the wound has healed, extension may commence.

INDEX TO VOL. XLIX.

PAGE

Abscesses, congestion, on the causes of the danger of, and on their treatment. By A. H. Schoemaker 151
Absorption, vesical, in the healthy subject. By M. Ségalas 196
Acid, carbolic, a cure for the bites of venomous snakes 95
" " antidote to 97
" " in suppurating and sloughing wounds and sores. By John Wood, F.R.C.S. 114
" " inhalation of an aqueous solution of. By W. Marcet, M.D. 66
" " in the sickness of pregnancy. By E. Garraway 116
" " its doses and medicinal value. By H. W. Fuller, M.D. 112
" " the double salts of 117
" " the internal use of 112
" chloracetic, as a caustic. By Dr. Urner 119
Adams, Mr. William, on subacute and chronic rheumatic affections of the joints; their pathology and treatment 143
" " on strumous diseases of the joints 147
Adelmann, M. von, on flexion of the limbs in traumatic hemorrhage 139
Agnew, Dr. Hayes, on a new surgical dressing 138
Air, on the introduction of, into the uterine veins. By Julius M. Klob, M.D. 253
" passages, tracheotomy in syphilitic affections of. By M. Trélat 178
Albuminuria, cure of, by iodide of calcium. By M. Baudon 77
" on the relation of, to puerperal convulsions. By P. M. Hastings, M.D. 270
Allbutt, Dr. T. Clifford, on the diagnostic value of the ophthalmoscope in "tubercular" meningitis 105
Anderson, Dr. M'Call, on the German spas 108
Aneurism, aortic. By A. B. R. Myers 183
" popliteal, occurring in diabetic patients, and on its treatment. By M. Verneuil 180
Angioneuroses, cutaneous. By Albert Eulenberg, M.D. 91
Anstie, Dr. F. E., on counter-irritation 19
" " on the treatment of epileptiform neuralgia 53
Antiseptic treatment of wounds. By W. MacCormac, M.D. 137
Arloing, M. and M. Tripier, on the results of section and resection of nerves 142
Armand, M., on the therapeutical employment of opium smoking 122
Arsenic, case of poisoning by, externally applied. By Thomas Graham, M.D. 98
" on the action of, on the human system. By Thomas Hunt, F.R.C.S. 88
Artery, subclavian, on the statistics of ligature of the 179
Ashhurst, Dr. John, on excision of the hip-joint 230
Asthma, on the treatment of, by belladonna. By Hyde Salter, M.D., F.R.S. 58
Atrophy, progressive muscular. By Samuel Wilks, M.D. 48
" " with complete paralysis of the extremities. By Dr. Nesemann 46
Atthill, Dr., on retroflexion of the uterus 268

PAGE

Augias-Turenne, M., on disturbance of vision consecutive to morbid changes in the teeth, and to operations performed on these organs 166

Bain, Dr. W. P., on a new and simple method of inducing artificial respiration 101
Ballard, Dr. E., comparison of the influence of variations of temperature upon general sickness in the colder and warmer seasons of the year 9
Bardinet, Prof., on fractures of the olecranon 212
Barnes, Dr. Robert, on certain dangers which attend the operation of craniotomy ... 252
" on cephalotripsy 251
" on improved methods of inducing and accelerating labor 239
" on the induction of premature labor 239
" the Cæsarian section 242
" " " the operation : the instruments and assistants 244
" " " the dangers of the operation 246
" on the operations for the relief of chronic inversion of the uterus 267
Baudon, M., on albuminuria 77
Bauer, Dr., on the treatment of talipes 218
Bayfield, Mr. S. J., on peroxide of hydrogen in diabetes 78
Beach, Dr. H. W. A., on the oil of yellow sandal wood in the treatment of gonorrhœa 125
Beigel, Dr., on the treatment of epilepsy 54
Bell, Mr. Joseph, cases of salivary calculus 177
Belladonna, anti-galactic properties of 130
" in infantile icterus. By J. Waring-Curran, L.K. & Q.C.P.I. 202
Bennett, Dr. Hughes, on pneumonia 55
" Dr. John, on the action of mercury, podophylline and taraxacum 131
" Prof., on the ordeal poison nut of Madagascar 97
Berncastle, Dr., on the treatment of snake-bites 94
Bismuth, on some of the uses of. By W. F. M'Nutt, M.D. 107
Bladder, fission and extroversion of the, and epispadias. By John Wood, F.R.C.S. 193
Blanquinque, M., on the treatment of compound luxation of the first metatarsal bone 210
Boslin, Dr., on the treatment of tetanus 133
Bouchet, M., on tubercles of the retina and choroid as diagnostic signs of tubercular meningitis 167
Bosseau, M., two cases of neuralgia of the internal saphenous nerve 214
Bowditch, Dr., on the physiological action of the bromide of potassium 117
Braidwood, Dr. P. M., on pyæmia or suppurative fever 150
Brodhurst, Mr. Bernard, on talipes calcaneus 218
" on lateral curvature of the spine 184
" treatment of rickets 278
" on the treatment of talipes valgus 217
" on the treatment of talipes varus 215
Bromide of potassium and antimony in puerperal convulsions. By T. N. Simmonds, M.D. 118
" " cases illustrating the use of. By D. G. Burr, M.D. 118
" " for diseases of children. By M. Moutard-Martin 275
" " physiological action of the. By H. P. Bowditch, M.D. 117
Brown, Dr. J. L., case of diabetes in an infant 274
Brown-Séquard, Dr., on organic affections and injuries of the spinal cord 44
" " on the pathogenesis of epilepsy 53
" " on the treatment of epilepsy 54
Brunton, Dr. John, an improvement upon Politzer's method of injecting air into the Eustachian tubes in certain cases of deafness 172
" " on the induction of premature labor 240

PAGE

Bryant, Mr. Thomas, on the treatment of suppurating joints by free incisions..... 140
Buchanan, Dr. George, on excision of the elbow..... 213
Buckler, Dr. T. H., on the treatment of gall-stones..... 13
Budd, Dr. William, on typhoid fever..... 18
Burns, experimental studies in. By Dr. Gustave Wertheim..... 136
Burr, Dr. D. G., cases illustrating the use of the bromide of potassium..... 118
Busch, Prof., on curare in trismus and tetanus..... 132
Buzzard, Dr., case of stomachal vertigo subsiding under treatment..... 40

Cæsarian section, the. By Robert Barnes, M.D..... 242
" " the operation — the instruments and assistants. By Robert Barnes, M.D..... 244
" " the dangers of the operation. By Robert Barnes, M.D..... 246
Calcification of the choroid, ciliary processes, crystalline lens, and capsule. By Charles A. Hart, M.D..... 171
Calculus, renal, on nephrotomy as a means of treating. By Thos. Smith, F.R.C.S. 190
" salivary, cases of. By Joseph Bell, F.R.C.S. Ed..... 177
Calomel, on the theory of dissolution of, in the organism. By Dr. Jeannel..... 130
Canadensis, sanguinaria, on the. By Victor Van der Espt..... 119
Cancer, is it a blood disease? By Messrs. de Morgan and Moore..... 155
" of the beast, a new operation for. By Richard Sweeting, M.D..... 214
" on a new and successful mode of treating certain forms of. By Alex. Marsden, M.D..... 156
Carbolic acid, a cure for the bites of venomous snakes..... 95
" antidote to..... 97
" inhalation of an aqueous solution of. By W. Marcet, M.D..... 66
" in the sickness of pregnancy. By E. Garraway..... 116
" its doses and medicinal value. By H. W. Fuller, M.D..... 112
" the double salts of..... 117
" the internal use of..... 112
" treatment of sloughing and suppurating wounds. By John Wood, F.R.C.S..... 114
Carbuncle, treatment of. By James Paget, F.R.S..... 135
Cardiac diseases, on the development of, in consequence of bodily exertions. By Dr. Thurn..... 71
Cephalotripsy, on. By Robert Barnes, M.D..... 250
Cerebral arteries, the symptoms of thrombosis of the. By Dr. Hubner..... 15
Chancre, diagnosis of. By Berkeley Hill, M.B., F.R.C.S..... 196
Chandler, Dr. W. J. On sulphite of soda and sulphite of ammonia in intermittent fever..... 125
Chapman, Dr. John, general principles of neuro-therapeutics..... 102
" " on sea-sickness..... 72
Childs, Mr. G. B., on the treatment of eczema..... 79
Chloracetic acid as a caustic. By Dr. Urner..... 119
Chloroform, to prevent death by..... 101
Cholera and diarrhœa, treatment of. By Sir Thomas Watson, Bt., M.D..... 11
" causes of. By Prof. Pettenkofer..... 12
Chorea, muriate of lime in..... 130
" treatment of. By Samuel Wilks, M.D..... 47
Churchill, Dr. J. F., on the hypophosphites in consumption..... 65
Circulation, effects of rowing upon the. By Dr. Fraser..... 71
Cloetta, M., on the detection of strychnia in poisoning cases..... 97
Condyloma, on the so-called subcutaneous. By Prof. Zeissl..... 149
Conjunctiva, on the treatment of chronic granulations of the. By Soelberg Wells... 164

PAGE

Conjunctivitis, catarrhal, on the origin by contagion of. By Prof. Gosselin..... 164
Consumption, the hypophosphites in. By J. F. Churchill, M.D..... 65
Copeman, Dr., on the treatment of imperforate hymen..... 254
Copmann, Dr., two cases of trephining 162
Convulsions in children. By Samuel Gee, M.D..... 272
" puerperal, relation of albuminuria to. By P. M. Hastings, M.D..... 270
Coote, Mr. Holmes, on the painless removal of hæmorrhoids..... 191
Cory, Dr. W., on the treatment of eczema..... 80
Counter-irritation, the popular idea of. By F. E. Anstie, M.D., F.R.C.P. 19
Coxalgia, on prolonged extension and pain in. By Dr. Hennequin..... 198
Craniotomy, on certain dangers which attend the operation of. By Robert Barnes, M.D..... 252
Croup, sulphur in the treatment of..... 57
Curare in trismus and tetanus 132
Curren, Dr. J. W., belladonna in infantile icterus..... 272
Curren, Dr., on the treatment of tetanus with Calabar bean..... 133

Deafness, improvement upon Politzer's method of injecting air into the Eustachian tubes in certain cases of. By John Brunton, M.D..... 172
Delirium Tremens, treatment of. William M'Crea, M.D..... 43
Delore, M., on suture of the tendo-Achillis 215
Demarquay, M., on resection of the ribs..... 184
De Morgan, Mr., on the constitutional nature of cancer..... 155
Dermatalgia, notes on. Bp H. S. Purdon, M.D..... 91
Desormeaux, Dr., on the ophthalmia of new-born children..... 271
Diabetes in an infant, case of. By James L. Brown, M.D 274
" mellitus, treated by opium. By F. W. Pavy, M.D., F.R.S..... 76
" peroxide of hydrogen in. By S. J. Bayfield 78
Diarrhœa and cholera, treatment of. By Sir Thos. Watson, Bart., M.D..... 11
Dickinson, Dr. W. H., on acute rheumatism 27
Discharges, uterine and vaginal. By James R. Lane, F.R.C.S..... 257
Disease, constitutional, on the ophthalmoscopic signs of. By Ernest Hart..... 167
Dressing, a new surgical. By Hayes Agnew, M.D..... 138
Dupré, Prof., on pleuritic effusions and thoracentesis..... 181
Dwinelle, Dr., on sea-sickness 74
Dysentery, chronic, a new treatment for. By E. M. Morse, M.D..... 74
" treatment of. By C. A. Gorden, M.D., C.B..... 74
Dysmenorrhœic membrane, on the so-called. By Julius M. Klob, M.D..... 259
Dyspepsia, nervous, on. By A. J. Pollock, M.D..... 42

Ear, mechanical dilatation of the external meatus of the. By J. Goltstein, M.D.... 175
" the caustic treatment of purulent catarrh of the. By Prof. Schwartze..... 173
Eaton, Dr. M. M., nitrate of silver in the treatment of uterine polypi..... 127
Eczema, the diagnosis of. By Erasmus Wilson, F.R.S..... 79
" treatment of. By G. Borlase Childs, F.R.C.S..... 79
" " By W. Cory, M.D..... 80
Effusions, pleuritic, and thoracentesis. By Prof. Dupré..... 181
Elbow, on excision of the. By George Buchanan, M.D..... 213
Elbow-joint, on compound dislocation of the. By Theophilus Mack, M.D..... 210
" on excision of the, for injury. By C. F. Maunder..... 213
Epilepsy, cases of, and remarks upon their treatment. Under the care of Dr. Beigel. 54
" pathogenesis of. By C. E. Brown-Séquard, M.D., F.R.S..... 53
" treatment of. By C. E. Brown-Séquard, M.D., F.R.S..... 54

PAGE

Erlach, Prof., and E. Lücke, on the application of oil of turpentine for parasitic affections of the skin, and for traumatic erysipelas 87
Erysipelas, on the pathological anatomy of. By. Profs. R. Volkmann and Stendener 87
Erysipelatous inflammation, method of applying nitrate of silver in. By John Higginbottom, F.R.S 86
Eulenberg, Dr., cutaneous angioneuroses 91
Eve, Dr. P. F., on a safe and effectual operation for the radical cure of variocele 199
Eyes, artificial, the application of. By J. Soelberg Wells 170

Favus, notes on the treatment of. By H. S. Purdon, M.D 80
Femur, on the conservative treatment of gunshot fractures of the. By Dr. Gritti ... 233
Fenwick, Dr., on removal of the entire tongue 178
Fever, intermittent, sulphite of soda and sulphite of ammonia in. By W. J. Chandler, M.D. 125
" rheumatic, remarks on the natural history of. By W. W. Gull, M.D., and H. G. Sutton, M.B 20
" rheumatic, treatment of. By Henry Kennedy, M.D 36
" scarlet, on the treatment of. By C. T. Thompson, M.D 17
" scarlet, treatment of. By Peter Hood, M.D 16
" typhoid, how to prevent it from spreading. By William Budd, M.D 18
" " on the treatment of, by creasote. By M. G. Pécholier 19
Finn, Dr. N., on atrophy of the heart 67
Fluck, Dr., on the treatment of placenta prævia 266
Fluid collections, on a new method of evacuating. By M. Verneuil 152
Fœtation, extra-uterine. By Evory Kennedy, M.D 264
Food and medicine, on the administration of, by the nose when they cannot be given by the mouth. By Dr. Anderson Moxey, M.D 109
Foot, perforating ulcer of the 214
Forearm, on the checking of the movements of supination and pronation after cure of fractures of the. By Prof. Volkmann 210
Fournier, M., on gonorrhœal sciatica 227
Fox, Dr. Tilbury, on the use of sulphur in itch 86
Fraser, on the effects of rowing upon the circulation 71
Fronmüller, Dr. G., on the alleged narcotic properties of narceia 111
Fuller, Dr. H. W., on carbolic acid 112

Galezowski, Dr. Xavier, on optic neuritis and perineuritis 168
Gall-stones, treatment of. By T. H. Buckler, M.D 13
Garraway, Mr. E., on carbolic acid in the sickness of pregnancy 116
Gastro-hysterotomy, studies on. By Giuseppe Testa, M.D 247
" intestinal discharges, neutral acetate of potash in. By Dr. Marotte 120
Gee, Dr. Samuel, on convulsions in children 272
Gerard, Dr., on kelotomy without reduction 186
Glynn, Dr. T. R., on cancrum oris 175
Goître, treatment of 181
Gonorrhœa, acute and chronic, successfully treated by injections of glycerine of tannin 192
" the oil of yellow sandal-wood in the treatment of. By H. W. A. Beach, M.D 125
Good, Dr. R. R., on the indications and contra-indications for the resection of the hip-joint in cases of caries 230
Gordon, Dr., on the treatment of dysentery 74

PAGE

Goschler, Dr., reunion of a phalanx which had remained detached from the finger for three-quarters of an hour 209
Gosselin, Prof., on the origin by contagion of catarrhal conjunctivitis 164
Gottstein, Dr., on the treatment of otitis externa acuta 175
Graefe, Alfred, Prof., treatment of disease of the lachrymal sac 169
Graham, Dr. Thomas, case of poisoning by arsenic externally applied 98
Gregory, Dr. E. H., on syphilis 157
Grimshaw, Dr. T. W., thermometric observations on pneumonia 56
Gritti, Dr., on the conservative treatment of gunshot fractures of the femur 233
Gruber, Dr., on pruritus cutaneus of the meatus auditorius 173
Grünfeld, Dr., on injections of corrosive sublimate for constitutional syphilis 126
Gueneau de Mussy, M., on the treatment of pruritus of the vulva 256
Gull, Dr., on rheumatic fever 20

Hæmaturia, a case of, in a new-born infant. By J. D. Smith, M.D. 274
Hemorrhage, *post-partum*, on the value of perchloride of iron in. By Hugh Norris, L.R.C.P. Edin. 250
" traumatic, forced and prolonged flexion of the limbs in. By M. von Adelmann 139
Hæmorrhoids, the painless removal of. By Holmes Coote, F.R.C.S. 191
Hamburger, Dr., on auscultation of the œsophagus 105
Hammond, Dr. William A., on the therapeutics of pain 104
Hardy, M., on a case of lumbar hernia 190
Hart, Dr. Charles, a case of calcification of the choroid, ciliary processes, crystalline lens, and capsule 171
" Mr. Ernest, on the ophthalmoscopic signs of constitutional disease 167
Hastings, D. P. M., on the relation of albuminuria to puerperal convulsions 270
Headaches, on 39
Health, public, on the influence of weather and seasons upon. By Edward Ballard, M.D. 9
Heart, atrophy of the. By N. Finn, M.D. 67
" on polypi of the. By B. W. Richardson, M.D., F.R.S. 67
Hecker, Dr. C., on diagnosis of partial rupture of the uterus 269
Heitzmann, Dr. C., on tumors 153
Hennequin, Dr., on prolonged extension and pain, in coxalgia 198
Hernia, lumbar, a case of. By M. Hardy 190
" strangulated femoral, purgatives in. By William Stokes, jun., M.D. 187
" " on the use of coffee in 127
Hervey, Dr. E. A., on tobacco in chronic wakefulness 123
Higginbottom, Mr. John, on the method of applying nitrate of silver in erysipelatous inflammation 86
Hildebrandt, Prof., on a peculiar form of vaginitis 258
Hildige, Mr. J. G., on the treatment of granular ophthalmia and pannus by inoculation 168
Hill, Mr. Berkeley, on the diagnosis of chancre 196
" Mr. J. D., on the treatment of gonorrhœa 192
Hillary, Mr. J. J., a case of poisoning by stramonium 98
Hip-joint, a case of dislocation of the. Under the care of Mr. Hulke 229
" on excision of the. By John Ashhurst, jun., M.D. 230
" on the indications and contra-indications for resection of the, in cases of caries. By R. R. Good, M.D. 230
Hofmann, Dr. K. B., on the action of papaverin 111
Holmes, Mr. Timothy, on the treatment of hydrocephalus 278

PAGE

Holmes, Mr. Timothy, on the treatment of wounds by the application of carbolic acid 137
Holthouse, Mr., on the treatment of traumatic tetanus by Calabar bean..... 133
Hood, Dr. Peter, on the treatment of scarlet fever..... 16
Hubner, Dr., on thrombosis of the cerebral arteries..... 15
Hunt, Mr. Thomas, on the action of arsenic on the human system..... 88
Hydatidiform disease—uterine—or cystic degeneration of the ovum. By T. M. Madden, M.R.I.A..... 260
Hydrocephalus, treatment of. By Timothy Holmes, F.R.C.S..... 278
Hydrogen, peroxide of, in diabetes. By S. J. Bayfield, M.R.C.S..... 78
" " on the therapeutical value of. By Benjamin W. Richardson, M.D., F.R.S..... 128
Hymen, imperforate, on the treatment of. By Dr. Copeman..... 254
Hypophosphites, the, in the toothache of pregnancy. By W. H. Stirling, M.D..... 129

Icterus, infantile, belladonna in. By J. Waring-Curran, L.K.Q.C.P.I..... 272
Ichthyosis, the treatment of. By M. Lailler..... 92
Infants and children, on the wasting diseases of. By Eustice Smith, M.D..... 276
Ipecacuanha, on the use of. By Dr. Weigersheim..... 109
Iron, on the comparative action of preparations of, which are considered as tonics. By Dr. Jeannel..... 121
" syrup of iodide of, and its preservation..... 123
Itch, on the uses of sulphur in. By Tilbury Fox, M.D..... 86

Jeannel, Dr., on the comparative action of preparations of iron which are considered as tonics..... 121
" on the theory of the dissolution of calomel in the organism..... 130
Jeannin, M., on the mask of pregnant women—ephelis..... 237
Joint affections, treatment of. By Prof. Volkmann..... 139
Joints, acute rheumatism, subacute and strumous affections of the. By W. Adams, F.R.C.S..... 143
" suppurating, on the treatment of, by free incisions. By Thomas Bryant, F.R.C.S..... 140
Jolly, M., on rupture of the uterus during labor..... 253
Jones, Dr. Handfield, a simple mode of performing artificial respiration in asphyxiated children..... 276
" Dr. Joseph, on the physiological effect of snake-bite..... 95
Jordon, Mr. Furneaux, on acute orchitis..... 190
Jüngken, on urethrotomy..... 195

Kelotomy, on, without reduction. By Dr. Marc Girard..... 186
Kennedy, Dr. Evory, on extra-uterine fœtation..... 264
" Dr. Henry, remarks on the treatment of acute rheumatic fever..... 36
Keith, Mr. Thomas, cases of ovariotomy..... 206
Kersch, Dr. S., on the alleged narcotic properties of narceia..... 111
Kidneys, Bright's disease of. By Dr. Steiner..... 78
Kilner, Dr. George, on lobelin in rigid os and perineum..... 122
Klob, Dr. Julius, on the introduction of air into the uterine veins..... 253
" " on the so-called dysmenorrhœic membrane..... 259
Knee, on resection of the. By Dr König..... 222
" on resection of the. By L. Stromeyer..... 224
" on resection of the..... 224
Knee-joint, on loose cartilage in the. By Alfred Poland, F.R.C.S..... 220

PAGE

Knee-joint, on the condition of the limb after excision of the, in four cases. By Henry Smith, F.R.C.S. 225
König, Dr., on resection of the knee 222
Kormann, Dr. Ernest, on injections of morphia in the pains and after-pains of labor. 249

Labor, morphia in the pains and after-pains of. By Ernest Kormann, M.D. 249
" on improved methods of inducing and accelerating. By Robert Barnes, M.D. 239
" premature on the induction of. By John Brunton, M. D. 240
" " the induction of. By Robert Barnes, M. D. 239
Lachrymal sac, treatment of disease of. By Prof. Graefe 169
Lachrymo-nasal passages, treatment of stricture of the, by internal division. By Dr. Warlomont 170
Lailler, M., on the treatment of ichthyosis 92
Landois, Prof., on the results of transfusion 269
Lane, Mr. James R., on uterine and vaginal discharges 257
Lawson, Dr. Henry, on the treatment of pyrosis 124
Leg, putting up fractures of the. By James Paget, F.R.S. 214
Lignerolles, M. de, on the mechanism of the fall of the umbilical cord 248
Liver, hydatid tumor of, treated by simple puncture 13
Lobelia, on poisoning by. By Chas. M. Tidy, M. B. 100
Lombard, Dr. J. S., on intellectual work and the temperature of the head 108
Lücke, Prof., and Prof. von Erlach, on turpentine in parasitic diseases 87
Ludlow, Dr. J., on the use of chestnut leaves in whooping-cough. 57
Lupus erythematosus, on. By Erasmus Wilson, F.R.S. 82

MacCormac, Dr. W., on the antiseptic treatment of wounds. 137
Mack, Dr. Theophilus, on compound dislocation of the elbow-joint 210
M'Crea, Dr., on the treatment of delirium tremens 43
Mackelcan, Dr., on sulphuret of potash in whooping-cough 58
McNutt, Dr. W. F., on some of the uses of bismuth 107
Madden, Dr. T. M., on uterine hydatidiform disease 260
Marcet, Dr. W., on the inhalation of an aqueous solution of carbolic acid under the form of spray for the treatment of phthisis 66
Marotte, Dr., on the employment of the neutral acetate of potash in acute and chronic gastro-intestinal discharges 120
Marsden, Dr. Alexander, on a new and successful mode of treating certain forms of cancer 156
Marsh, Mr. F. H., on tracheotomy in children 273
Marshall, Dr. Wm., on stricture of the internal os as a cause of miscarriage. 262
Martin, M. Moutard, on bromide of potassium in diseases of children 275
" Prof. E., on the removal of small uterine polypi by torsion 261
Maunder, Mr. C. F., on excision of the elbow-joint 213
Meatus auditorius, pruritus cutaneous of the. By Dr. Gruber 173
Mercury, podophylline, and taraxacum, report of the Edinburgh Committee on the action of. By John Bennett, M.D., F.R.S.E. 131
Metatarsal bone, on the treatment of compound luxation of the first. By MM. Blanquinque and Lassalas. 210
Millar, Dr. John, case of ovarian cystic tumor cured by bromide of potassium 270
Minteforte, Dr., on phenic acid in syphilis 126
Miscarriage, stricture of the internal os as a cause of. By W. Marshall, M. D. 262
Moore, Mr. C. H., on going to sleep 45
" " on the constitutional nature of cancer. 155
Morphia, injections of, in the pains and after-pains of labor. By Ernest Kormann, M. D. 249

PAGE

Morse, Dr. E. M., on a new treatment for chronic dysentery 74
Moxey, Dr. Anderson, on the administration of food and medicine by the nose when they cannot be given by the mouth 109
Murray, Dr. Peter, on pyæmia or suppurative fever 150
Myers, Mr. A. B. R., on aortic aneurism 183

Narceia, on the alleged narcotic properties of. By G Fronmüller, M. D., and S. Kersch, M. D 111
Nasi, lipoma, case of. Under the care of Mr. Hulke 180
Neck, Derbyshire, treatment of. By Dr. Lücke 181
Nephritic irritation, early signs of. By Owen Rees, M. D., F.R.S. 75
Nerves, researches on the results of section and resection of, in relation to the state of sensibility of the integuments and of the peripheral extremity of the divided nerve. By MM. S. Arloing and Tripier 142
Nervous system, diseases of the. By Samuel Wilks, M. D. 51
Nesemann, Dr., on progressive muscular atrophy 46
Neuralgia, "epileptiform," on the treatment of. By Francis E. Anstie, M. D. 53
" facial, narcotic snuffs in. By Dr. Raimbert 40
" of the internal saphenous nerve. By M. Bousseau 214
Neuritis, optic, and perineuritis. By Dr. Xavier Golezowski 168
Neuro-therapeutics, general principles of. By John Chapman, M. D. 102
Nipples, sore, treatment of. By J. G. Wilson, M. D 124
Nöbiling, Dr., on the action of tartar emetic 110
Norris, Mr. Hugh, on the value of perchloride of iron in *post-partum* hemorrhage 250
Norton, Mr., case of prolapsus uteri 262

Obstructions, intestinal, tobacco smoke in 123
Œsophagus, on auscultation of the. By Dr. Hamburger 105
Olecranon, on fractures of the. By Prof. Bardinet 212
Olive, Dr., on tobacco smoke in intestinal obstructions 123
Ophthalmia, granular, treatment of. By J. G. Hildige, F.R.C.S.I. 168
" on the, of new-born children. By Dr. Desormeaux 271
Ophthalmoscope, on the diagnostic value of the, in "tubercular" meningitis. By T. Clifford Allbutt, M. D 105
Ophthalmoscopic signs of constitutional disease. By Ernest Hart 167
Opium-smoking, therapeutical employment of. By M. Armand 122
Orchitis, acute, note on the cure of, in twenty-four hours. By Furneaux Jordan, F.R.C.S. 190
" on the external use of nitrate of silver in 127
Oris, cancrum, on. By Thomas R. Glynn, M.B. 175
Os, rigid, and perineum, lobelin in. By George Kilner, M.D 122
Otitis externa acuta, treatment of. By. J. Gottstein, M.D 175
Oulmont, M., on veratrum viride, considered as a therapeutical agent 124
Ovarian cystic tumor cured by bromide of potassium. By John Millar, M.D 270
Ovariotomy, a third series of 100 cases of, with remarks on tapping ovarian cysts. By T. Spencer Wells, F R.C.S 205
" cases of. By Thomas Keith, F.R.C.S.E 206
" recent experience in. By T. Spencer Wells, F.R.C.S 200

Paget, Mr. James, on putting up fractures of the leg 214
" on the treatment of carbuncle 135
Pain, therapeutics of. By William K. Hammond, M. D 104
Panas, M., on the direction of the uterus in the adult female 238
Papaverin in mental affections. By Drs. Leidesdorf and Breslauer 129

PAGE

Papaverin on the action of. By K. B. Hofmann, M.D. ... 111
Paralysis, lead. By Samuel Wilks, M.D. ... 50
" mercurial. By Samuel Wilks, M.D. ... 50
Parturition, expulsion of a fibrous tumor after ... 249
Patella, on the treatment of hygroma of the, and of hydrarthrosis by forcible compression. By Prof. Volkmann ... 221
Pavy, Dr., on diabetes mellitus ... 76
Pécholier, M., on the treatment of typhoid fever by creasote ... 19
Pericarditis, hemorrhagic, a case of, treated by double puncture of the pericardium. By M. Henri Roger ... 68
Pertussis, sulphuret of potash in. By Dr. Mackelcan ... 58
Pettenkofer, Prof., on the causes of cholera ... 12
Phalanx, reunion of a, which had remained detached from the finger for three-quarters of an hour. By Dr. Goschler ... 209
Phthisis, hemorrhagic. By Herman Weber, M.D. ... 60
" on the treatment of. By Herman Weber, M.D. ... 62
Pincus, Dr., on the successful use of oil of savin in alopecia pityrodes ... 93
Placenta prævia, treatment of. By Dr. Fluck ... 266
Pneumonia, on. By Hughes Bennett, M.D. ... 55
" thermometric observations on. By T. W. Grimshaw, M.D. ... 56
Poison-nut, the ordeal of Madagascar ... 97
" snake, an antidote to ... 93
Poisoning, lead. By W. Frank Smith, M.B. ... 96
Poland, Mr. Alfred, on loose cartilage in the knee-joint ... 220
Pollock, Dr. A. Julius, on nervous dyspepsia ... 42
Polypi, uterine, treatment of. By M. M. Eaton, M. D. ... 127
" " on the removal of. By Prof. E. Martin ... 261
Potassium, bromide of, and antimony, in puerperal convulsions. By T. N. Simmons, M.D ... 118
" " cases illustrating the use of. By D. G. Burr, M.D. ... 118
Potassium, bromide of, for diseases of children. By M. Moutard-Martin ... 275
" " physiological action of. By H. P. Bowditch, M.D. ... 117
Pregnancy, carbolic acid in the sickness of. By E. Garraway ... 116
" hypophosphates in the toothache of. By W. H Sterling, M.D. ... 129
Pregnant women, the mask of—ephelis. By M. D. Jeannin ... 237
Pruritus of the vulva, on the treatment of. By M. Noel Gueneau de Mussy ... 256
Psoriasis, treatment of, by balsam of copaiba. By Frederick Simms, M.B. ... 80
Purdon, Dr. H. S., notes on the treatment of favus ... 80
" " on dermatalgia ... 91
Pyæmia, on. By Peter Murray Braidwood, M.D. ... 150
" on cutaneous symptoms in ... 91
Pyrosis, sulphurous acid in the treatment of. By Henry Lawson, M.D. ... 124

Raimbert, Dr., on narcotic snuffs in headache and facial neuralgia ... 40
Rees, Dr. Owen, on nephritic irritation ... 75
Respiration, artificial, a new and simple method of. By W. P. Bain, M.D. ... 101
" " simple mode of performing. By C. Handfield Jones, M.D. ... 270
Retina and choroid, on tubercles of the, as diagnostic signs of tubercular meningitis. By M. Bouchut ... 167
Rheumatic fever, remarks on the natural history of. By W. W. Gull, M.D., and H. G. Sutton, M.B. ... 20
" treatment of. By Henry Kennedy, M D ... 36
Rheumatism, acute, on. By W. H. Dickinson, M.D. ... 32
" " on the treatment of, in the hospitals of Great Britain ... 26

PAGE

Rheumatism, opinions of Irish physicians on the treatment of..... 34
Ribs, on the resection of. By M. Demarquay..... 184
Richardson, Dr. B. W., on polypi of the heart..... 67
" " on the therapeutical value of peroxide of hydrogen..... 128
Rickets, treatment of. By Bernard E. Brodhurst, F.R.C.S..... 278
Roger, M. Henri, on a case of hemorrhagic pericarditis treated by double puncture of the pericardium..... 68

Sabinæ, oleum, in alopecia pityrodes. By Dr. Pincus..... 93
Salter, Dr. Byde, on the treatment of asthma by belladonna..... 58
Savin, oil of, in alopecia pityrodes. By Dr. Pincus..... 93
Scanzoni, Dr., a case of chronic inversion of the uterus..... 267
Scarlet fever, on the treatment of. By C. T. Thompson, M.D..... 17
" " " By Peter Hood, M.D..... 16
Schoemaker, M., on the causes of the danger of congestion abscesses and on their treatment..... 151
Schwartze, Prof., on the caustic treatment of purulent catarrh of the ear..... 178
Sciatica, gonorrhœal. By M. Fournier..... 227
Sea-Sickness, cure of. By Dr. Dwinelle..... 74
" prevented or cured by the spinal ice-bag. By John Chapman, M.D... 72
Ségalas, M., on vesical absorption in the healthy subject..... 196
Sigmund, Prof., on the local treatment of syphilis..... 160
Simmonds, Dr. T. N., on bromide of potassium and antimony in puerperal convulsions..... 118
Simms, Dr. Frederick, on the treatment of psoriasis..... 80
Skin, oil of turpentine in affections of the..... 87
Sleep, on going to. By Charles H. Moore, F.R.C.S..... 45
Smith, Dr. Eustace, on the wasting diseases of infants and children..... 276
" Dr. Frank, on lead poisoning..... 96
" Dr. J. D., case of hæmaturia in a new-born infant..... 274
" Mr. Henry, on the condition of the limb after excision of the knee-joint, in four cases..... 225
" Mr. Noble, on the external use of nitrate of silver in orchitis..... 127
" Mr. Thomas, on nephrotomy as a means of treating renal calculus..... 190
Snake-bite, Prof. Halford's treatment of..... 93
" the physiological effect of. By Joseph Jones, M.D..... 95
Snake-bites, the treatment of. By. Dr. Berncastle..... 94
Snake-poison, an antidote to..... 93
Snakes, venomous, carbolic acid a cure for the bites of..... 95
Spas, German, a visit to some of the. By J. M'Call Anderson, M.D..... 108
Spermatocele, on. By Dr. F. Stendener..... 199
Spillman, Dr. E., on resection of the tibio-tarsal articulation..... 226
Spina bifida; injection of iodine; recovery..... 186
Spinal cord, on organic affections and injuries of the. By. C. E. Brown Séquard, M.D..... 44
Spine, treatment of lateral curvature of the. By Bernard E. Brodhurst..... 184
Steiner, Dr., on Bright's disease of the kidneys..... 78
Stendener, Dr. F., on spermatocle..... 199
Sterling, Dr. W. H., on the hypophosphites in the toothache of pregnancy..... 129
Stokes, Dr. William, jun., on purgatives in strangulated femoral hernia..... 187
Stramonium, a case of poisoning by. By J. J. Hillary..... 98
Stromeyer, M., on resection of the knee-joint..... 224
Strychnia, detection of, in poisoning cases. By M. Cloetta..... 97
Sulphur, on the use of, in itch. By Tilbury Fox, M D..... 86
" " in croup..... 57

PAGE

Sutton, Dr., on rheumatic fever 20
Sweeting, Dr. Richard, on a new operation for cancer of the breast 214
Syphilis, constitutional, injections of corrosive sublimate for. By Dr. Grünfeld 126
" on. By E. G. Gregory, M.D 157
" on inoculation of. By Dr. V. Tanturri 159
" on the local treatment of. By Prof. Sigmund 160
" phenic acid in. By Dr. Minteforte 126

Talipes, on the treatment of. By Louis Bauer, M.D 218
" calcaneus, on. By Bernard E. Brodhurst, F.R.C.S 218
" valgus, treatment of. " " " 217
" varus " " " " 215
Tanturri, Dr. V., on inoculation of syphilis 159
Tartar emetic, on the action of. By Dr. A. Nöbiling 110
Temperature, comparison of the influence of variations of, upon general sickness. By Edward Ballard, M.D 9
Tendo-Achillis, suture of the. By M. Delore 215
Testa, Dr. Giuseppe, studies on gastro-hysterotomy 247
Tetanus, a case of, following compound fracture of the arm. Under the care of Mr. Tatum 140
" treated with Calabar bean. By Drs. Boslin and Curren 133
" traumatic, treatment of, by Calabar bean. By C. Holthouse, F.R.C.S 133
Thompson, Dr. C. T., on the treatment of scarlet fever 17
Thurn, Dr., on the development of cardiac diseases in consequence of bodily exertions 71
Tibio-tarsal articulation, on resection of the. By E. Spillman, M.D 226
Tidy, Dr. C. M., on poisoning by lobelia 100
Tobacco as an hypnotic in a case of chronic wakefulness 123
Toe-nail, in-growing. Hospital out-patient practice 234
Tongue, removal of. By Dr. Fenwick 178
Tracheotomy in syphilitic lesions of the respiratory passages. By M. U. Trélat 178
" on, in children. By F. Howard Marsh 273
Transfusion, on the results of. By Prof. Landois 269
Trélat, M., on tracheotomy in syphilitic lesions of the respiratory passages 178
Trephining, two cases of. By Dr. Copeman 162
Trismus and tetanus, curare in. By Prof. Busch 132
Tumors, on. By Dr. C. Heitzmann 153
Tumor, ovarian cystic, cured by bromide of potassium. By John Millar, M.D 270
Turpentine, on the application of oil of, for parasitic affections of the skin, and for traumatic erysipelas. By Prof. K. von Erlach and Lücke 87
Typhoid fever, how to prevent it from spreading. By William Budd, M.D 18
" on creasote in. By M. Pécholier 19

Umbilical cord, mechanism of the fall of. By M. Lignerolles 248
Urethrotomy. By Dr. Jüngken 195
Urner, Dr., on chloracetic acid as a caustic 119
Uteri, prolapsus, of seventeen years' standing 262
Uterus, a case of chronic inversion of the. By Dr. V. Scanzoni 267
" diagnosis of partial rupture of the. By C. Hecker, M.D 269
" on retroflexion of. By Lombe Atthill, M.D 268
" on rupture of the, during labor. By M. Jolly 253
" on the direction of the, in the adult female. By M. Panas 238
" on the operations for the relief of chronic inversion of the. By Robert Barnes, M.D 267

PAGE

Vaginitis, on a peculiar form of. By Prof. Hildebrandt 258
Varicocele, a safe and effectual operation for the radical cure of. By Paul F. Eve, M.D 199
Veratrum viride considered as a therapeutical agent. By M. Oulmont 124
Verneuil, M., on a new method of evacuating fluid collections 152
" on popliteal aneurism 180
Vertigo, stomachal, a case of, subsiding under treatment 40
Vesicæ, catarrhus 195
Vision, on disturbances of, consecutive to morbid changes in the teeth and to operations performed on these organs. Prof. M. Augias-Turenne 166
Volkmann, Prof., on the checking of the movements of supination and pronation after cure of fractures of the forearm 210
" on the pathological anatomy of erysipelas 87
" on the treatment of hygroma of the patella, and of hydrarthrosis by forcible compression 221
" on the treatment of joint-affections 139

Wakefulness, chronic, tobacco as an hypnotic in a case of. By E. A. Hervey, M.D 123
Warlomont, Dr., on the treatment of stricture of lachrymo-nasal passages by internal division 170
Watson, Sir Thos., Bart., M.D., on the treatment of cholera and diarrhœa 11
Weber, Dr. Hermann, on hemorrhagic phthisis 60
" " on the treatment of phthisis 62
Weigersheim, Dr., on the use of ipecacuanha 109
Wells, Mr. Soelberg, on the application of artificial eyes 170
" " on the treatment of chronic granulations of the conjunctiva 164
" Mr. T. Spencer, recent experience in ovariotomy 200
" " a third series of 100 cases of ovariotomy, with remarks on tapping ovarian cysts 205
Wertheim, Dr. Gustave, experimental studies on burns 136
Whooping-cough, the use of chestnut leaves in. By J. Ludlow, M.D 57
" " the use of sulphuret of potash in. By Dr. Mackelcan 58
Wilks, Dr. Samuel, on chorea 47
" " on lead paralysis 50
" " on mercurial paralysis 50
" " on progressive muscular atrophy 48
" " treatment of diseases of the nervous system 51
Wilson, Dr. J. G., on the value of the nitrate of lead in the treatment of sore nipples 124
" Mr. Erasmus, on lupus erythematosus 82
" " on the diagnosis of eczema 79
Wood, Mr. John, on carbolic acid in suppurating and sloughing wounds and sores ... 114
" " on fission and extroversion of the bladder and epispadias 193
Work, intellectual, and the temperature of the head. By J. S. Lombard, M.D 108
Wounds, on the antiseptic treatment of. By Wm. MacCormac, M.D 137
" on the treatment of, by the application of carbolic acid. By Timothy Holmes 137

Zeissl, Prof., on the so-called subcutaneous condyloma 149

END OF VOL. XLIX.

THE

HALF-YEARLY ABSTRACT

OF THE

MEDICAL SCIENCES:

BEING

A DIGEST OF BRITISH AND CONTINENTAL MEDICINE,

AND OF

THE PROGRESS OF MEDICINE AND THE COLLATERAL SCIENCES.

Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.

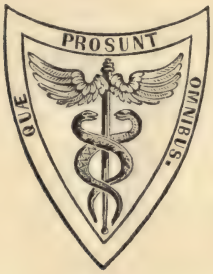
CICERO.

EDITED BY

WILLIAM DOMETT STONE, M.D., F.R.C.S. (EXAM.)

VOL. L.

JULY—DECEMBER, 1869.



PHILADELPHIA:
HENRY C. LEA.
1870.

PHILADELPHIA:
COLLINS, PRINTER, 705 JAYNE STREET.

CONTENTS OF VOL. L.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

Sect. I.—General Questions in Medicine.

ART.		PAGE
1.	Some Remarks on the Nature and Causes of Diseases. *Dr. Samuel Wilks*	9
2.	The Spontaneous Cure of Hydatid Cysts. *Dr. Charles Kelly*	10
3.	On Dysenteric Arthritis. *Dr. Huette*	11
4.	On Counter-Irritation. *Dr. R. B. Painter*	12
5.	Cases of Cholera successfully Treated by Saline Injection into the Veins, and Autopsies of Cases unsuccessfully Treated. *Mr. L. S. Little*	13
6.	Cylindrotænium, a new Vegetable Growth found in Choleraic Dejections. *Mr. M. O. W. Thomé*	14
7.	Treatment of Fevers. (French Medical Practice)	14
8.	Treatment of Rheumatic Fever by Perchloride of Iron. *Dr. J. R. Reynolds*	15
9.	Relapsing or Famine Fever	15
10.	The Treatment of Acute Gout	17
11.	On the Treatment of Scurvy by the Binoxalate of Potash. *Dr. W. H. Taylor*	19
12.	Cases of Septicæmia. *Dr. Duffin*	19
13.	On Typhus Exanthematicus. *Dr. Julius Theurkauf*	21
14.	On Scarlatina. *Dr. Walter Fergus*	22

Sect. II.—Special Questions in Medicine.

(a) *Concerning the Nervous System.*

15.	The Physiology and Pathology of the Cerebellum. *Dr. William A. Hammond*	24
16.	On the Treatment of Delirium Tremens in the Hospitals of Great Britain	24
17.	Hoarseness and Loss of Voice in relation to Nervo-Muscular Affections of the Larynx. *Dr. Morell Mackenzie*	28
18.	Case of Epilepsy successfully Treated with Assafœtida. *Dr. Pollock*	29
19.	Treatment of Nervous Headache. *Dr. William A. Hammond*	30
20.	Certain Forms of Paralysis Depending on Idea. *Dr. J. Russell Reynolds*	30
21.	On Certain Forms of Paralysis and their Treatment by Electricity. *Dr. Walter G. Smith*	31
22.	On Neurosis from Moral Shock. *Dr. de Berdt Hovell*	33
23.	Lateral Deviation of the Eyes in Hemiplegia. *Dr. Hughlings Jackson*	34
24.	On the Nature and Coördination of Hysterical Phenomena. *Dr. Chairon*	34
25.	Death by Hemorrhage from Cerebral Tumors. *Dr. Hughlings Jackson*	35
26.	On Sunstroke. *Dr. Gouverneur M. Smith*	36

(b) *Concerning the Respiratory System.*

27.	The Treatment of Catarrh and Bronchitis. *Dr. George Johnson*	38
28.	On the Influence of Pleurisy in the Production of Phthisis. *Dr. Andrew Clark*	41
29.	Prescription for Whooping Cough. *Dr. Valentine Mott*	42
30.	On the Practical and Pathological Bearings of Recent Researches as to the Artificial Production of Tubercle. *Dr. J. Burdon Sanderson*	42
31.	Ascending and Descending Respiration. *Dr. J. Hawtrey Benson*	44
32.	Physiological Rationale of Pneumonia and Bronchitis. *Dr. J. N. Heale*	45
33.	Observations on the Treatment of Pneumonia. *Dr. A. T. H. Waters*	47

(c) *Concerning the Circulatory System.*

34.	Additional Notes on Unusually Rapid Action of the Heart. *Dr. Richard Payne Cotton*	49
35.	Two Cases of Thrombosis of the Renal Vessels through Injury to the Lumbar Spine, with General Remarks on Thrombosis. *Dr. W. Moxon*	50
36.	On Presystolic Murmur. *Dr. Hyde Salter*	50
37.	On Functional Valvular Disorders of the Heart. *Dr. Da Costa*	51
38.	Some remarks on Tricuspid Regurgitation and Mitral Presystolic Bruits, with Case. *Mr. Henry G. Sutton*	52
39.	Reduplication of the Sounds of the Heart. *A. Geigel and P. Guttman*	52
40.	Sea-air and Heart-disease. *Mr. Alfred Haviland*	53

(d) *Concerning the Alimentary System.*

41.	On Uræmic Diarrhœa. *Dr. J. Milner Fothergill*	55
42.	On Instantaneous Death caused by the Passage of Aliments in course of Digestion from the Stomach to the Air Tubes. *Dr. Achille Foville*	55

ART. PAGE

43. On Peri-umbilical Inflammation in Tuberculization of the Peritoneum. *Dr. Emil Vallin* 56
44. A Case of Bursting of a Varicose Spleen. *Dr. Cohnheim* 56

(e) *Concerning the Genito-Urinary System.*

45. On the Early Indications of Nephritic Irritation. *Dr. G. Owen Rees* . . 57
46. On Septicæmic Nephritis. *Dr. Fischer* 57
47. Diabetes Treated with Carbonate of Ammonia. *Dr. F. W. Pavy* . . . 58
48. Lime-water in the Treatment of Bright's Disease 58
49. On a purely Milk Diet in Diabetes Mellitus. *Dr. Arthur Scott Donkin* . . 58
50. Treatment of Diabetes by Peroxide of Hydrogen. *Dr. Clifford Allbutt* . . 58
51. Prognosis in Bright's Diseases. *Dr. Austin Flint* 59
52. Diabetes in a Case of Tumor of the Medulla Oblongata. *Dr. J. B. Dompeling* 62

(f) *Concerning the Cutaneous System.*

53. On Eczema. *Mr. Erasmus Wilson* 62
54. On the Treatment of Eczema. *Mr. Erasmus Wilson* 63
55. On Leichen Planus. *Mr. Erasmus Wilson* 67
56. On the Therapeutics of Diseases of the Skin. *Dr. T. McCall Anderson* . . 69
57. Hints as to the Study of Skin Diseases. *Mr. Jonathan Hutchinson* . . 72
58. A Lecture on the Treatment of Skin Diseases, being an attempt to take a Coup d'œil of Cutaneous Pathology and Therapeutics. *Mr. Jonathan Hutchinson* 73
59. Notes on the Treatment of Diseases of the Skin. *Dr. Robert Liveing* . . 73
60. On Some of the More Recent Methods of Treating Certain Diseases of the Skin. *Dr. T. McCall Anderson* 74
61. On Contagious Impetigo. *Dr. Tilbury Fox* 74
62. On the Nature and Therapeutics of Lupus Erythematosus. *Dr. Moritz Kohn.* 77
63. On the Prognosis and Treatment of Psoriasis *Prof. Hardy* 78
64. On the Morbid Anatomy of Elephantiasis Græcorum. *Dr. W. Moxon* . 80
65. On Ichthyosis. *M. Lailler* 81
66. Effects of Carbolic Acid on the Economy, on Vegetable Parasites, and Diseases of the Skin. *Dr. Neumann* 81
67. Cases of Tinea Circinata (Ringworm of the Surface). *Dr. Tilbury Fox* . . 81

SECT. III.—FORENSIC MEDICINE.

68. On Homicidal and Suicidal Wounds of the Throat. *Dr. Alfred S. Taylor* . 82
69. Galvanism as an Antidote in Poisoning by Gelseminum Sempervirens. *Dr. J. T. Main* 83
70. On Poisoning by Phosphorus. *Prof. Rameri Bellini.* 83
71. On Poisoning by Phosphorus. Oil of Turpentine the Antidote. *Dr. T. E. Jenkins* 84
72. On Poisoning by Phosphorus; arrested by the Essence of Turpentine. *Dr. Andante* 85
73. Poisoning by Cimicifuga. *Dr. Garrison* 85
74. A Case of Poisoning by Nicotiana. *Dr. Maurice G. Evans* 86
75. On the Detection of Red and White Corpuscles in Blood-stains. *Dr. Joseph C. Richardson* 87
76. On the Reaction of Phenic Acid on Strychnia. *Dr. Paulo Bert* . . . 89
77. On the Physiological Action of Atropine, Digitaline, and Aconitine on the Heart and great Bloodvessels. *Dr. Frederick B. Nunneley* 89
78. Toxicological Cases. *Dr. Thomas Stevenson* 90

SECT. IV.—THERAPEUTICS.

79. Sleep-producing Agents. *Dr. William A. Hammond.* 90
80. Carbolic Acid in Scarlatina. *Dr. H. T Cleaver* 91
81. On the Use of Arsenic in Pulmonary Phthisis. *Dr. Moutard-Martin* . . 91
82. On the Therapeutical Use of Digitalis. *Dr. S. Kersch* 92
83. The Hypophosphites of Lime and Soda in Consumption. *Dr. R. Payne Cotton* 92
84. On Some of the Effects of the Bromide of Potassium, when administered in Large Doses. *Dr. William A. Hammond* 93
85. On the Effects of Podophyllin. *Dr. Pietro* 94
86. On the Action of Digitalis in Typhoid Fever. *Dr. Ernst Hankel* . . . 94
87. Rheumatic Paraplegia cured by Nitrate of Silver. *Dr. Louis Caradac* . . 95
88. On the Use of Antiseptic Cere-cloth for Covering Wounds. *Mr. Edward Lund* 95
89. Clinical Therapeutics. *Dr. S. O. Habershon* 96
90. On the Action of Veratrin. *Pégaitaz* 97
91. On the Febrifuge Properties of Quinia, and its Efficacy in Pulmonary Consumption. *Dr. Liebermeister* 97
92. On the Use of Tincture of Green Hellebore (Veratrum Viride) in Inflammation of the Lungs. *Dr. Dasche* and *Dr. Kiemann* 98
93. Experiments with Pancreatic Juice. *MM. Chauvin* and *Morat* . . . 99

ART. PAGE
94. On Charcoal Respirators. *Dr. William Marcet* 99
95. On Tincture of Cantharides in some Forms of Pyelitis. *Mr. Edward Mackey.* 99
96. Action of Veratrum Viride and V. Album. *Dr. Oulmont* 100
97. On Three new Anæsthetics: Bromoform, Bromal, and Iodal. *Dr. Rabuteau.* . 100
98. On the Treatment of Epithelioma by Chlorate of Potash 102
99. Effect of Corrosive Sublimate in improving the Constitution. *Dr. H. Almes* . 102
100. Results of Subcutaneous Injection of Bichloride of Mercury. *Dr. J. Rosenbach* 103
101. The Prophylactic Action of Copper in Cholera Epidemics 104
102. On the Destruction of Tumors by Injections of Pepsine and other Substances which act in Digestion. *Dr. De Castro* 104
103. On the Detection of Fixed Oils in Plants. *Mr. Thomas T. P. Bruce Warren* . 105
104. Fluid Extract of Pumpkin Seed 105
105. Calabar Bean in Trismus Neonatorum. *Dr. Alois Monti* 105
106. On the Process for Preparing James's Powder. *Mr. Michael Donovan* . . 106
107. Carbolic Acid and Human Parasites. *Mr. T. A. Readwin* 107
108. Danger of Giving Strong Doses of Camphor 108
109. Actual Experience in Hospital Practice of Recently Vaunted Remedies. *Dr. D. M'Gregor* 109
110. On the Effects of the Inoculation and Ingestion of various Organic Substances, and Principally of Tuberculous Products. *Dr. Dubuisson* . . . 112
111. A Visit to some of the German Spas—Carlsbad. *Dr. M'Call Anderson* . . 113
112. On the Sulphites in cases of Purulent Infection. *Dr. Giovanni Ferrini* . 115
113. On the Action of Chloral upon the Economy. *Dr. Liebruch* 115
114. On the Physiological Action of Chloral. *M. Demarquay* 116
115. Second Report on Chloral. *M. Demarquay* 117
116. On Chloral. *Dr. Benjamin W. Richardson* 118
117. New Experiments with Hydrate of Chloral. *MM. Dreulafoy and Krishaber* . 119
118. Trials of Chloral at the London Hospital 119

PART II.—SURGERY.

Sect. I.—General Questions in Surgery.

119. Mr. Le Gros Clark's Lectures on Shock and Visceral Lesions 121
120. On Acupressure and Torsion. *Mr. J. Cooper Forster* 123
121. On the Treatment of Aneurism by Iodide of Potassium. *Dr. George W. Balfour* 124
122. On the Treatment of Aneurism by the Hypodermic Injection of Ergotin. *Prof. V. Langenbeck* 124
123. Treatment of Traumatic Tetanus with the Calabar Bean. *Dr. Eben. Watson* 127
124. On Ligature of a Main Artery to arrest Acute Traumatic Inflammation. *Mr. C. F. Maunder* 127
125. On Blennorrhagic Rheumatism. *M. Alfred Fournier* 128
126. A Severe Case of Struma; Remarkable Benefit by the Waters of the Woodhall Spa. *Mr. Paget* 130
127. The Treatment of Nævus. *Mr. Henry Bateman* 131
128. On the Treatment of Old Luxations. *M. Lafaurie* 132
129. On Extension with Weights. *Dr. Vinzenz Czerny* 132
130. On the Causes of Speedy Death after Certain Operations and Wounds. *Dr. Ar. Verneuil* 134
131. Cases Illustrating the Relative Value of Excision and Amputation. *Mr. J. H. Barnes* 134
132. Treatment after Electrical or Lightning Stroke. *Dr. Benjamin W. Richardson* 135
133. On the Water-glass Bandage. *Dr. Flamm* 136
134. On the Seminal fluid in Disease. *M. Liégeois* 136
135. On the Theory of Suppuration, and the Use of Carbolic Acid Dressings. *Dr. Eben. Watson* 137
136. Contributions to the Study of the Cicatrization of Wounds. *Dr. Giuseppe Ruggi* 137
137. Albumen in the Urine, sometimes in Conjunction with the Coloring Matter of the Blood, as a Consequence of Surgical Diseases and Operations. *Mr. Henry Lee* 140
138. Three Cases of Cancer Treated by Gastric Juice. *Drs. Tansini* and *Pagello* . 140
139. M. Ricord on Vaccinal Syphilis 142
140. On the Treatment of Syphilis by the Subcutaneous Injection of Corrosive Sublimate. *Dr. A. Merscheim* 142
141. On the Application of the Hypodermic Method to the Treatment of Syphilis by Mercurial Preparations. *Dr. F. Bricheteau* 143
142. On the Results obtained from the Subcutaneous Injection of Small Doses of Corrosive Sublimate in the Treatment of Syphilis. *M. Liégeois* . . 144
143. On the Nature of Syphilitic Infection and the Inoculability of the Syphilitic Virus. *Prof. W. Boeck* 146
144. Clinical Notes on the Treatment of Syphilis. *Dr. John Kent Spender* . . 149
145. Cases Illustrating the Diagnosis of Syphilis. *Mr. Maunder* 149

Sect. II.—Special Questions in Surgery.

(a) *Concerning the Head and Neck.*

ART. PAGE

146. On a Simple Method for the Radical Cure of Encysted Tumors of the Scalp. *Dr. Von Krafft-Ebing* 149
147. On Trephining for Traumatic Lesions of the Head. *Baron H. Larrey* . . 151
148. On Extirpation of the Calcaneum. *Prof. Polaillon* 152
149. Tumor of the Submaxillary Gland. *Dr. Talazac* 153
150. On the Contagious Origin of Catarrhal Conjunctivitis. *M. Gosselin* . . 153
151. On Adenoid Vegetations in the Naso-Pharyngeal Cavity. *Dr. Wilhelm Meyer* 154
152. Ophthalmia Neonatorum. *Prof. J. Soelberg Wells* 156
153. On Iritis. *Prof. J. Soelberg Wells* 157
154. Irido-Choroiditis. *Prof. J. Soelberg Wells* 158
155. Inflammation of the Lachrymal Sac (Dacryocystitis). *Prof. J. Soelberg Wells* 161
156. Cases of Iritis in Syphilis Treated without Mercury. *Mr. G. G. Gascoyen* . 162
157. Curious Instance of Occasional Sudden Failure of Sight. *Mr. Hutchinson* . 163
158. Occurrence of Amaurotic Amblyopia long after the Injury, in Cases of Concussion of the Spinal Marrow. *Prof. T. Wharton Jones* 164
159. Hyperæsthesia of the Ciliary Muscle. *Prof. Ed. Junge* 165
160. On the Abuse of Atropine as a Collyrium, and the Injudicious Employment of Collyria in General. *Dr. J. Sichel* 166
161. Vesicular Body (Cyst) in the Anterior Chamber—Extraction. *Prof. Businelli* 167
162. Case of Pemphigus of the Conjunctiva 167
163. On Recent Improvements in Ophthalmic Surgery. *Mr. Thomas Bickerton* . 168
164. On Cancrum Oris. *Mr. Thomas R. Glynn* 169
165. On Accumulation of Mucus within the Tympanum, and its Treatment by Incision of the Membrana Tympani. *Mr. James Hinton* 169
166. On the Application of Caustics to the Ear 170
167. On Auditory Objective Bruits. *Dr. E. Leudet* 170
168. On Certain Sympathetic Nervous Phenomena which are Produced during Acute Inflammation of the Membrana Tympani, and frequently by merely Simple Compression of this Membrane. *M. Bonnafont* 170
169. A New Method of Using Needles in the Operation for Harelip. *Mr. L. Tait* . 171
170. On the Use of Chloroform in the Cure of Cleft Palate. *Mr. Thomas Smith* . 171
171. Case of Epithelioma of the Tongue. Complete Extirpation of the Organ. Return of the Disease. *Dr. Geo. E. Fenwick* 172
172. Exophthalmic Goitre. *Dr. W. B. Cheadle* 173
173. On Removal of Laryngeal Polypi. *Dr. Krishaber* 175
174. Wound of the Larynx; Laryngeal Suture; Healing by First Intention. *M. Prestat* 175
175. A Case of Epithelioma of the Œsophagus, in which Gastrotomy was performed. With remarks. *Mr. Arthur E Durham* 176
176. A Case in which a Live Fish found its way into the Œsophagus, and was Impacted for about Sixteen Hours. *Dr. W. Stewart* 177
177. A Case of Stricture of the Œsophagus after Swallowing Caustic Potash. *Mr. Jonathan Hutchinson* 178
178. Treatment of Torticollis, or Wry-neck. *Mr. Bernard E. Brodhurst* . . 178

(b) *Concerning the Trunk.*

179. Case of Hydatid Tumor of the Abdomen simulating Ovarian Disease, Treated successfully by Operation; with Remarks. *Mr. Thomas Bryant* . . 179
180. A Case of Ovariotomy in a Child; with Remarks. *Mr. Thomas Bryant* . 179
181. Cases Illustrating the Treatment of Suppurating Ovarian Cysts, and some points connected with Ovariotomy. *Mr. Thomas Bryant* 180
182. On Treatment of the Pedicle after Ovariotomy. *Mr. C. F. Maunder* . . 180
183. A Case of Multilocular Cyst of the Left Ovary Complicated by Ascites, Umbilical Hernia, and Prolapse of the Uterus; Ovariotomy; Recovery. *M. Boinet* 181
184. On Rupture of the Ureter. *Mr. Alfred Poland* 182
185. Stricture of the Urethra; Breaking of a Bougie in the Urethra; Perineal Section, and Median Operation as for Stone, with Extraction of Bougie from the Bladder. *Dr. Erskine Mason* 182
186. Spina Bifida Successfully Treated by Ligature. *Mr. Edward Sidebottom* 183
187. On Splenic Tumors. *Dr. C. Hilton Fagge* 184
188. Fusiform and Tubular Aneurism of the Subclavian Artery, and its Treatment by Compression. *Mr. Alfred Poland* 184
189. On the Differential Diagnosis of Abdominal Aneurism. *Dr. W. Moore* . . 186
190. On Wounds of the Heart and Pericardium. *Dr. George Fischer* . . . 187
191. Cases of Inguinal Hernia; Operations for the Radical Cure; Results. *Mr. John D. Hill* 189
192 Can an Inguino-Scrotal Hernia be Reduced *en masse?* *Mr. John Couper* . 191
193. Case of Traumatic Stricture. *Mr. Christopher Heath* 192

ART. PAGE
194. Stricture of the Urethra; its Prevention, Early Detection, and Best Method of Treatment. *Mr. W. F. Teevan* 192
195. On the Action of Urine and Saliva on Tissues which are not protected by Epithelium. *Prof. G. Simon* 194
196. On Abscess of the Prostate; Treatment by Puncture per Rectum. *Mr. C. F. Maunder* 195
197. On Catheterism in Cases of Cancer of the Prostate. *Dr. Jacques Jolly* . . 195
198. Incontinence of Urine the first and almost the only Symptom of Prostatic Retention, with Secondary Diseases of the Kidneys. *Mr. J. Hutchinson* . 196
199. On the Treatment of Tubercular Disease of the Testicle. *Dr. Salleron* . . 196
200. On the Detection and Treatment of Foreign Bodies in the Bladder; with Remarks on the Use of the Endoscope. *Mr. Edward Lund* 198
201. Calculus Vesicæ; Case where Death followed the Introduction of the Lithotrite *Mr. Henry Smith* 200
202. On the Employment of Ice in Affections of the Testis. *M. Diday* . . . 201
203. The Diagnosis of Chancres. *Dr. A. C. Haynes* 202
204. On Subcutaneous Injection of Bubo. *Dr. Wertheim* 203
205. On a Complication of Bubo. *M. Clerc* 203
206. Two Cases of Colloid Cancer of the Large Intestine. *Mr. J. Cooper Forster* . 204
207. Different Methods of Operating for the Cure of Anal Fistula 204
208. Amputation of Penis for Epithelial Disease. Ricord's Operation . . . 205
209. Case of Colotomy in Cancer of the Rectum. *Mr. Robert B. Carter* . . 205
210. Further Observations on Lumbar Colotomy for the Relief of Intractable Diseases of the Rectum, with Four Cases of Operation. *Mr. W. Curling* . . 205
211. On Lumbar Colotomy, in Special Reference to Cases of Vesico-intestinal Fistula. *Mr. Reginald Harrison* 206

(c) *Concerning the Upper Extremity.*

212. Amputation of the Scapula, along with Two-thirds of the Clavicle and the Remains of the Arm. *Dr. Patrick Heron Watson* 207
213. On the Mechanism and Insufficiency of Forcible Flexion of the Forearm upon the Arm as a Means of Hæmostasis. *M. Leon Tripier* 209
214. Amputation of the Right Arm at the Shoulder-joint; with Excision of the Scapula. *Mr. Vincent Jackson* 209
215. Amputation of the Arm at the Shoulder-joint for Osteo-Myelitis. Death from Pyæmia. *Dr. J. Fayrer* 210

(d) *Concerning the Lower Extremity.*

216. On Erectile Tumors of the Foot. *Mr. Alfred Poland* 212
217. Wounds of Joints. *Mr. Thomas M. Parrott* 212
218. The Mechanism of Dislocation and Fracture of the Hip, with the Reduction of the Dislocations by the Flexion Method. *Dr. Henry Bigelow* 212
219. On Puncture of the Knee-joint in the Treatment of Synovitis. *Dr. J. Fayrer* 214
220. Medicinal Treatment of Ulcers of the Legs. *Mr. Christopher Heath* . . 215
221. Transverse Fractures of the Patella. *Mr. Jonathan Hutchinson* 216
222. Fracture of the Patella—Treated by Malgaigne's Hooks. *Mr. John Morgan* 217
223. Case of Dislocation of the Patella on its Vertical Axis successfully treated. *Mr. Carey Pearce Coombs* 217
224. Traumatic Varicose Femoral Aneurism Treated by Ligature. *Mr. J. Spence* . 218
225. Case of Ununited Fracture of the Femur—Treatment by Walking and Exercise of the Limb. *Dr. Mignot* 220
226. On the Diseased Elongation of the Bones of the Extremities in relation to Surgical Practice. *Prof. Langenbeck* 223
227. A Case in which Aneurisms of the two Popliteal Arteries were cured by Digital Pressure. *Mr. Thomas Bryant* 224
228. On a Case of Popliteal Aneurism. *Mr. James F. West* 224

PART III.—MIDWIFERY.

Midwifery and Diseases of Women and Children.

(a) *Concerning Pregnancy and Parturition.*

229. Anatomico-Physiological and Practical Considerations on Pregnancy and Delivery. *Dr. Martinelli* 226
230. On the Recognition before Birth of the Situation of the Placenta. *Dr. Pfeiffer* 227
231. The Oxalate of Cerium in the Vomiting of Pregnancy. *Mr. J. Waring Curran* 227
232. Electricity in Parturition. *M. de St. Germain* 227
233. The Pain of Parturition and Anæsthetics. *Dr. A. E. Sansom* . . . 228
234. New Method of Embryotomy. *Dr. Robert Barnes* 229
235. Uterine Hemorrhage after Labor. *Dr. Robert Barnes* 229
236. On the Use of the Short Forceps *Mr. Thomas Moore Madden* . . . 232

ART. PAGE
237. On the Treatment of Laceration of the Perineum Immediately after Delivery. *Dr. John Brunton* 234
238. On Post-Partum Hemorrhage. *Dr. Robert Barnes* 234
239. Concealed Accidental Hemorrhage of the Gravid Uterus. *Dr. William Goodell* 235
240. Prolapsus of the Uterus containing a Child between the Seventh and Eighth Months of the Second Pregnancy. *Mr. William Allison* 238
241. Management of After-Pains. *Dr. T. Gaillard Thomas* 238
242. Cases of Transfusion; with some Remarks on a New Method. *Dr. J. B. Hicks* 239

(b) *Concerning the Diseases of Women.*

243. The Surgery of the Cervix in Connection with certain Uterine Diseases. *Dr. T. Emmett* 239
244. Anemia and Chlorosis. *Dr. T. Gaillard Thomas* 240
245. Treatment of Chlorosis. *Dr. William A. Hammond* 441
246. The Rectum in its Relations to Uterine Disease. *Dr. H. Storer* . . . 241
257. Vaginismus treated Successfully without Operation. *Dr. Wharton P. Hood* . 241
248. The Treatment of Chronic Uterine Catarrh. *Dr. W. S. Playfair* . . . 242
249. Pathology and Therapeutics of Dysmenorrhœa Membranacea. *Dr. F. Mandl* 243
250. Chromic Acid in Menorrhagia and Uterine Leucorrhœa. *Dr. David Wooster* . 243
251. On Peritoneal Adhesions of the Gravid Uterus as a Cause of Post-Partum Hemorrhage. *Dr. Graily Hewitt* 244
252. Notes from a Clinical Lecture on a Case of Irreducible Retroversion of the Gravid Uterus—Paracentesis Uteri—Recovery. *Dr. Head* . . . 244
253. Retroflexion of Uterus in a Single Woman caused by Lifting a Heavy Weight. *Dr. Hall Davis* 245
254. A Remarkable Case of Retroversion of the Uterus of Eighteen Years' Standing Successfully Treated by Elytrorrhaphy. *Dr. J. Byrne* 246
255. Ovariocentesis Vaginalis. *Dr. E. Noeggerath* 246
256. Diffuse Hypertrophy of both Mammæ—Excision of one Organ—Favorable Result. *Dr. S. M. McSwiney* 247
257. On the Relations between Eclampsia and Puerperal Mania. *Mr. P. Seydel* . 250
258. On the Treatment of Puerperal Convulsions. *Mr. Arthur Steele* . . . 250
259. Cases of Puerperal Convulsions, with Remarks on the various Remedies used in the Treatment of this Disease. *Mr. Thomas J. H. O'Connor* . . 251
260. On Intra-uterine Injections in Diseases of the Womb. *Dr. Franz Riegel* . 251
261. Ice to the Spine in Menorrhagia. *Dr. William C. Crooks* 254
262. Myomata of the Uterus, Broad Ligaments, and Ovaries; Calcareous and Suppurative Degeneration. *Dr. Tyson* 255
263. Congenital Absence of the Vagina and Uterus, with full Development of the External Organs of Generation and Mammary Glands. *Dr. T. L. Ogier* . 256
264. On Fibro-Cystic Tumors of the Uterus. *Dr. E. Kœberlé* 258
265. Practical Remarks on Fibrous Tumors of the Uterus. *Dr. A. Linas* . . 259
266. Certain Forms of Uterine Cancer. *Dr. C. F. F. Routh* 262
267. New Vaginal Speculum 263

(c) *Concerning the Diseases of Children.*

268. Clinical History of Variolous Disease in Children and Minors. *Dr. W. Pepper* 264
269. On the Temperature of Children in Health and Disease. *Dr. James Finlayson* 266
270. Extraordinary Vitality of a New-born Infant 267
271. Two Cases of Convulsions during Dentition Arrested by Scarification of the Gums. *Mr. G. Stevenson Smith* 268
272. Congenital Cataract in Children Simulating Short-sightedness. *Dr. Joy Jeffries* 270
273. On Vaccination. *M. Depaul* 270
274. Vaccination direct from the Heifer, or Animal Vaccination. *Dr. H. Blanc* . 271
975. On Animal Vaccination. *Dr. P. M. Braidwood* 272
276. On the Comparative Protective Powers of Animal and Human Vaccine Lymph. *Mr. A. B. Steele* 273
277. On the Transmission of Measles; the Duration of its Incubation; and the Pharyngeal Affection Characteristic of this First Period. *M. Girard* . . 274
278. On the Enlargements of the Viscera in Rickets. *Dr. W. H. Dickinson* . . 275
279. Lithotomy and Lithectasy in Children. *Mr. F. Churchill* 276
280. Diarrhœas of Children. *Dr. Müller* 276
281. On the Use of Pepsin in the Diarrhœa of Infants. *Dr. James S. Hawley* . 278
282. Food for Infants 278
283. Effects of Tobacco Smoke upon Children 280

APPENDIX.

1. On Atrophy induced by Cicatrix, and its Surgical Value. *Mr. T. Pridgin Teale* 282

HALF-YEARLY ABSTRACT

OF

THE MEDICAL SCIENCES,

ETC.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

ART. 1.—*Some Remarks on the Nature and Causes of Disease.*

By SAMUEL WILKS, M.D., F.R.C.P., Physician and Lecturer on Medicine at Guy's Hospital.

(*Guy's Hospital Reports*, vol. xiv.; and *British and Foreign Med.-Chir. Review*, October.)

DR. WILKS adduces the well-known division of the causes of disease into the predisposing and exciting, as an example of the conviction existing in people's minds that disease is of a twofold nature, namely, extrinsic and intrinsic, one kind arising from without and another from within. Thus, typhus fever is excited by contagion in a person predisposed to its reception by bodily or mental fatigue, and chorea is excited by fright in a child predisposed on account of its nervous temperament. But the term cause in these cases is used very differently, for in the one it is meant that the disease is itself implanted like a seed in a soil prepared for its growth, and in the other we simply refer to an influence developing the inmate tendencies of the child to a particular morbid action. Thus, too, smallpox and consumption have nothing in common, except that they are both diseases, the one being a deranged condition of body due entirely to an external agency, the other arising from a cause which is altogether within.

The tendency of Dr. Wilks's argument appears to be to prove that diseases really originate in some peculiar condition of the body itself, and that they are, as it were, the manifestations of some long-standing constitutional disturbance. The subject of predisposition was the most important branch of medicine studied by the ancients, among whom exact diagnosis was unknown; but among modern physicians the improvements made in the physical investigation of particular organs have tended much to narrow men's minds to a localized pathology; but this tendency carried out as it has been in the present day, appears to be founded on mercantile rather than on scientific principles. Dr. Wilks would, therefore, resist this tendency to the unnecessary localization and subdivision of diseases, and would desire that more attention should be paid than is done at present to the different diatheses or constitutions of patients. The ancient writers divided civilized man, for several generations, according as he had a superfluity of blood, of phlegm, of yellow bile, or of black bile, or, in other words, he was designated as sanguineous, phlegmatic, choleric, and melancholic; and these terms are sometimes used even in the present day. But more modern writers, as Dr. Laycock, have divided men into other diathetic categories, as the arthritic, the strumous, the nervous, the bilious, and the lymphatic. Some of these terms are appropriate; but with respect to the strumous, Dr. Wilks agrees with the writers who believe that two very different conditions

have been included under that name, and that the unhealthy-looking children with large heads, narrow chests, and protuberant bellies, are very unlike in constitution to the tall, handsome, and often vigorous-looking subjects who become in adult life the victims of consumption. Dr. Wilks proceeds to offer a number of ingenious remarks upon other temperaments, as the arthritic, the nervous, and the bilious; and he suggests that the physician should carefully study these peculiarities of constitution, with a view of obtaining correct notions of the nature and cause of disease, and consequently, of the best methods of treating it.

Art. 2.—*The Spontaneous Cure of Hydatid Cysts.*

By Charles Kelly, M.D, Assistant Physician and Pathologist to King's College Hospital.

(*British and Foreign Medico-Chir. Review*, October.)

The paper commences with an account of those hydatid cysts which are found after death in a pulpy-like condition; and arguments are brought forward against the theory, generally received, that this condition is brought about by the absorption of the fluid contents and consequent contraction of the cyst. In most of the cases which have been recorded mention has been constantly made of a shrunken hydatid cyst, and the convolutions of the endo-cyst which are so frequently met with are adduced as proofs of the contraction having taken place.

Against this view of absorption of the fluid contents, it is shown—I. That there is no vascular connection between the outer fibrous sac and the endo-cyst by which such a process could occur. 2. That there were no signs of puckering or contraction, in the cases recorded, of the surrounding tissues, as should be the case if absorption had occurred. 3. That some small tumors had been found in this condition in the substance of the liver, while the tissue around was merely condensed. 4. That the outer sac was generally globular and tense. 5. That, although drugs had been given in some cases with the apparent effect of causing absorption, yet this was not verified by post-mortem examination. The author maintains that the explanation of the phenomena that occurred is, that the hydatid, becoming imbedded in an organ, soon had a fibrous sac formed around it from the condensation of the surrounding tissues; that as the hydatid grew this sac expanded in proportion, if the walls were not too resisting, and if they were properly nourished; as a consequence, the laminated endo-cyst merely lined the sac, and the fluid contents were derived from the pabulum, which, having passed through the fibrous tissue, moistened the outer surface of the endo-cyst, which then secreted the hydatid fluid.

If, on the other hand, the outer sac were too resisting, the expansion ceased, and in consequence of the relative disproportion of growth, the endo-cyst became folded upon itself, as was found nearly constantly in post-mortem examinations.

For a while nutritive changes went on, till, after a time, the supply of pabulum was not enough to nourish the hydatid, and it died; or, in other cases, the outer sac became atheromatous and calcified, and death ensued from the nutritive fluid being cut off.

The cure, then, was the result, not of absorption of the fluid contents, but of the death of the hydatid from not receiving enough pabulum on which it could live.

Thus the involutions of the endo-cyst were not produced by the contraction of a larger cyst, but were a natural consequence of an impeded growth; this accounted also for the globular shape of the sac and the absence of any cicatrization of the tissues. In nearly all the cases recorded the cysts were of small size and seldom recognized during life. The diagnosis of some would most probably have been made if they had once been larger, as the endo-cyst has been met with four times the superficial area of the outer sac, and in most two or three times the size. Now, if the endo-cyst had merely lined the outer sac,

as is the case where they contain much fluid, the cyst must have once been of such a size as to give rise to symptoms, and to have been made out during the lifetime of the patient.

The conditions favorable for spontaneous cure were—1. A dense, unyielding, outer fibrous sac. 2. Atheromatous or calcareous changes in the fibrous tissue which forms the sac. 3. Relative disproportion of growth between the endocyst and the sac in which it lies. 4. Situation in a confined part so as to prevent rapid growth or expansion.

All these changes concurred in preventing a due amount of pabulum from entering the sac, and so causing the death of the hydatid. An opposite condition of the tissues led to the formation of a large cyst with very fluid contents.

In all cases the hydatid would begin in the same manner, but during its early development the above conditions would lead to spontaneous cure, or, if absent, would cause a large cyst to be formed.

If these views be correct, it follows that as soon as an hydatid cyst is diagnosed to contain fluid, it is of no use waiting for absorption to occur, as spontaneous cures are not brought about by that method, and it is equally useless to give large quantities of any drug, as medicines seem to have no effect on a cyst.

On the other hand, when a solid hydatid cyst is diagnosed it had better be left alone, as it is already cured, and will produce no evil effects.

A table is appended with a short account of thirty cases in which this spontaneous cure had taken place. The following is a list of the organs in which the cysts have been situated:—

	No. of Cysts.
Liver	32
Omentum	3
Spleen	1
Between bladder and rectum	2
Between stomach and colon	1
In vertebral canal	1
Total	40

Nearly all the cysts were met with in the liver; none in any position where compression could not have been exerted.

Art. 3.—*On Dysenteric Arthritis.*

By Dr. Huette.

(*Archives Générales de Médecine*, August, 1869.)

1. There exists a variety of arthritis which recognizes as its unique and necessary cause epidemic phlegmasia of the mucous membranes of the rectum and colon.

2. This rheumatic manifestation does not present itself during every epidemic of dysentery; it is subordinated to the influence of a special morbid constitution; an individual diathesic condition may favor its development.

3. Dysenteric arthritis is essentially apyretic, and differs in its causes, its progress, its general physiognomy, and its consequences from simple articular rheumatism. It presents a great analogy with hemorrhagic rheumatism.

4. Dysenteric arthritis, nearly always polyarticular, varies very much in duration between several weeks and several months. It terminates in resolution in the great majority of cases; it may, under certain rare circumstances, terminate in suppuration and anchylosis.

5. Metastasis does not explain the law which rules over the appearance of arthritis as was supposed by the ancient writers; it is more rational to explain it by a morbid affinity which, the mucous membranes being diseased, sets up reflex pathological effects in the other tissues of economy.

Art. 4.—*On Counter-Irritation.*

By R. B. Painter, M.D., F.R.C.S. Exam.

(*The Lancet*, April 24.)

Dr. Painter states that he ventures to differ from Drs. Dickinson and Anstie, who object that counter-irritation cannot be good, unless there is a *direct* connection between the diseased part and the irritated part, and that if there is that connection, a blister may do positive harm by being placed too near the inflamed part.

Dr. Painter quite agrees that counter-irritation in the acute stage of disease, especially in children, may be most prejudicial, or if employed too near an acutely inflamed joint, pericardium, or pleura; but if applied at the proper time and place, he believes great good may be effected in several ways.

1. In all internal inflammation and congestion, from deficient nerve-force and consequent dilation of the capillaries, from partial palsy of vaso-motor nerves, the stimulus of the peripheral nerves may be so reflected by the efferent branches as to cause contraction of the dilated capillaries, and in that way resolution.

2. Or by setting up artificially an inflammation on one part of the body you may, by vicarious action, cause the internal inflammation or morbid condition to cease in another part.

3. Or the impression or new action set up by the irritant may break the continuity of the morbid nutrition, as a bad habit may be broken by a sudden necessity or shock.

4. Or the artificially produced discharge may, according to the old belief, carry off peccant humors in some diseases, and benefit in a chemical manner.

5. Or if products of inflammation have been effused, blistering may stimulate absorbtion.

"I believe," Dr. Painter writes, "that any one or more of these physiological or chemical effects may be produced without there being any *direct* vascular or nervous connection between the parts primarily affected, and secondarily irritated—that is to say, there need not necessarily be immediate connection by capillary anastomosis, and afferent and efferent nerve union. Surely in the case of the nerves (and we know how they influence the vessels) it is not needful to prove a *direct* communication. Do we not all know how marvellously the nerves are connected throught the body? To show that an impression on one part may influence a distant part, I will give a few illustrations.

"Some years ago I had a patient — a girl twelve years of age — with a non-specific ulceration of the mucous membrane of the nose. I gave tonics, alteratives, procured change of air, and used various local applications, but all to no good purpose. At last, after two months' trial, my patient, to my confusion, was taken to an oilmonger who is an amateur doctor, and who immediately put a seton in the arm, with the result of effecting an almost immediate cure.

"Again, look at the effect of plunging the hand suddenly into cold water in arresting epistaxis. Or at the fact of a draught of cold air blowing — we will say on the leg — producing immediate sneezing. Or at the circumstance that putting the feet into mustard-and-water will sometimes so act on the nerves and bloodvessels of the uterus as to produce a delayed catamenia. Or who has not seen a mustard poultice or a blister on the chest give immediate relief, in bronchitis, from pain, dyspnœa, and difficulty of expectoration? Do we not know, also, that a diarrhœa will cure gonorrhœa, and an attack of piles the headache or the gout? Yet in all these instances there is no *direct* nerve connection. In all these cases a certain impression must have been conveyed to the nerve centres, with the result of an altered discharge of nerve force, or a change in chemical action.

"I suppose I must not instance the revulsive effect of an emetic in stopping an ague or a fever, as vomiting is such a tremendous combination of actions. As to setons, I am quite certain, notwithstanding the inoculation-of-pus theory,

that they are too much neglected. In head affections especially, as chronic meningitis, and in various other diseases, I am satisfied they are capable of effecting great benefit.

"How, in a given case, counter-irritation may do good I will not attempt dogmatically to affirm. It may be, as has been suggested, by stimulating the nerves, the capillaries, or the absorbents; or it may be by revulsion; or, as in the case of ulceration of the nose already spoken of, by producing such an impression in some way on nutrition as to break by a wrench the continuity of a morbid functional action, whether nervous, vascular, or chemical. To illustrate this, let us take the case of a chronically inflamed part with its enlarged and weakened capillaries, and which if connected with a gland would cause it to constantly pour out a half-elaborated secretion, and continuing from continuity or habit. Put a blister or other irritant on any part of the body—but if on a part supplied by the same group of nerves as the part affected, perhaps so much the better—an impulse will be conveyed to the spinal cord or sympathetic ganglia which will be reflected on the diseased part, and the bad habit will be broken. I say this may be so; for do we not know what a trifle will change or divert the operation of nervous action in the brain, the heart, or other organs? How suddenly a thought, a habit, a rhythm, or a secretion may be altered by a new impression. If this be so, may we not argue, by analogy, that if a mental or other habit can be changed by an idea or a new impression—a change, as in fear, anger, or joy, influencing the whole body and its functions for good or for ill—why may not an external impression on a spinal or sympathetic nerve influence the whole system also for good or for ill? In the one case nerve function is affected from within outwards, and in the other the reverse. Is not the body a great whole, and are not its functions and sympathies closely bound together? Where does consciousness cease? A mental habit may be changed by a new impression, and why may not a habit of organic life be changed also by some other impression? That organic functions can be made to feel the force of habit we know by numerous examples, but most prominently so by the stomach. A diseased action once set up may continue from habit, just as a clock may still go even though in wrong beat; yet a very slight alteration will set all right. So, it appears to me, it is quite possible a blister, a seton, a croton liniment, or a mustard poultice, besides its more subtle action on the nerves, the capillaries, the absorbents, or the chemistry of nutrition, separately or collectively, may have a sudden effect on the whole body in altering function, as hot brandy-and-water may cure a headache or a colic by its impulsion, or as a sudden blow on the back may violently break the most subtle mental operations. In the one case *involuntary*, and in the other *voluntary*, attention is arrested by the stimulus from what had previously occupied it, and force is directed into a new channel, or equalized."

ART. 5.—*Cases of Cholera successfully Treated by Saline Injection into the Veins, and Autopsies of Cases unsuccessfully Treated.*

By L. S. LITTLE, F.R.C.S.

(*London Hospital Reports*, vol. iv.; and *British and Foreign Medico-Chir. Review*, July.)

This paper is a continuation of one already published on the same subject in a former volume of the Reports. In two cases recovery took place under most unfavorable circumstances, one patient being a pregnant woman, and in her case the symptoms were complicated with pyæmia and the occurrence of premature labor. Even in the fatal cases the post-mortem examination showed that the saline injection caused the patients to pass into reaction and restored the circulation, the lungs being found not collapsed, both sides of the heart containing blood, and bile being present in the upper part of the intestines.

ART. 6.—*Cylindrotænium, a new Vegetable Growth found in Choleraic Dejections.*

By M. O. W. THOMÉ.

(*Virchow's Archiv*, 1867; *Gazette Médicale de Paris*, March 13th, 1869.)

M. Thomé says that on examining microscopically the rice-water evacuations of cholera, we find, amongst other things, a hyaline mucus, inclosing small corpuscles, refracting strongly, .002 mm. in diameter; at other times we find cellular organisms in a more or less advanced state of destruction. The rice-water fluids vomited by a choleraic patient, contained strongly refractive corpuscles, .008 mm. in diameter, closely resembling in appearance globules of fat, but distinguishable from them by their insolubility in ether, and by their behaving like solid bodies under compression. No protein compound can be detected in their composition by any reagent. They possess a distinct membranous envelope, demonstrable by acids, the episporium, containing a mass of granular protoplasm, which, on the addition of concentrated acids, divides into spores, in every respect resembling the refracting corpuscles found in rice-water stools. The changes which these corpuscles of .008 mm. undergo, are, first, the loss of refractiveness; at the same time they soften, and the episporium dissolves into an amorphous hyaline mucus. At this moment, if we examine two corpuscles which come in contact, we see that a soldering (copulation) takes place between the two corpuscles at the point of contact; and they may then be followed in different transformations from the condition where several corpuscles in a state of copulation are still recognizable and distinct, to that in which the mucous transformation of the episporium is accomplished, and a complete soldering is produced. Soon the small spores found in the corpuscles, and larger than .001 mm. in size, cross the enveloping mucus, and become free (*spores mobiles, Schwarmer*). They move in a manner which it is impossible to confound with molecular movements. Thomé has studied the influence of these spores on epithelium by placing them in saliva containing epithelium cells. At the end of some hours the spores lose their movements, and attach themselves to an epithelial cell which undergoes a kind of contraction. By cultivating with cholera stools and glycerine, syrup, white of egg, &c., Thomé has obtained a fungus which approaches in form the oïdium and cylindrium, but which he believes to be a new species, and describes under the name of cylindrotænium. From his researches, Thomé draws the following practical conclusions: Boiling is the best means to destroy the parasite fungus in choleraic dejections. We know no agent which can destroy the parasite when it is in the interior of the organism. There is nothing to be done but to evacuate it by the ordinary means (emetics and purgatives). Opium is especially contra-indicated.

ART. 7.—*Treatment of Fevers.*

FRENCH MEDICAL PRACTICE.

(*British Medical Journal*, October 22.)

During the thirty years which have elapsed since the Paris correspondent of the *British Medical Journal* first began his acquaintance with French medical practice, an extraordinary change, he writes, has taken place for the better in the Parisian treatment of fevers. Bleeding, purging, and starving the patients to death, have given place to sustaining them with wine, meat-broth, and as much farinaceous and of other food as they can benefit by, so as to keep them alive whilst the malady runs its inevitable course. Trousseau was the chief apostle of this modern and better system, which is now, with a few exceptions, generally adopted by all the hospital physicians of Paris. In pulmonic inflammatory complications, antimonials and depletion are more freely resorted to than is now usual in English practice; but, when blood is taken under any

circumstances in cases of typhoid fever, whether by venesection, leeching, or cupping, it is with considerable caution. In the severe bronchitis and pneumonia of typhoid fever, the late Dr. Trousseau was in the habit of relying a good deal upon counter-irritation by the tincture of iodine; Dr. Peter follows the same practice. It is preferable to blistering in most cases, because the irritation produced is more easily regulated, and the risk of producing a gangrenous sore is obviated. Dr. Peter employs a very efficacious and little known method of subduing the tympanitic distension of the abdomen, so often an urgent symptom in typhoid fever; viz., the use of what may be called *ice-poultices*. Small fragments of ice are scattered over a thick layer of dry linseed-meal: in this way a poultice is formed, which, in consequence of the slow melting of the ice, is kept at the temperature of melting ice. To Professor Monneret belongs the credit of conceiving, and introducing to the profession, this very valuable method of treating tympanites.

ART. 8.—*Treatment of Rheumatic Fever by Perchloride of Iron.*[1]

By J. RUSSELL REYNOLDS, M.D., F.R.S.

(*British Medical Journal*, August 28.)

The marked effects of tincture of perchloride of iron in such diseases as erysipelas and diphtheroid sore throat has induced Dr. Reynolds to try it in acute rheumatism—which agreed with the others in coming under the class of "spreading inflammatory affections." He had given it in eight cases, with such success as would justify a further trial. Having given brief histories of the eight cases, he directed attention to certain points. 1. The relief of the joint affections was definite, uniform, and speedy. In four cases it was removed in one day; and the longest period of suffering after the commencement of the treatment was five days. 2. Excluding one fatal case with cerebral symptoms, and another where there was intercurrent pneumonia, the temperature became normal between the second and the seventh days; the mean duration of pyrexia being a little less than five days and a half. 3. Excluding again the two exceptional cases already mentioned, the total duration of rheumatic fever from the outset varied from seven to fifteen days, giving a mean of ten and a half days. 4. The earlier the iron was given, the shorter was the duration of the disease. No headache or other symptom of discomfort was produced by the iron.

ART. 9.—*Relapsing or Famine Fever.*

(*British Medical Journal*, October 23.)

The two following cases are fairly marked specimens of relapsing or famine fever, which now threatens to become epidemic, and which, until last year, had not been seen since 1855 in this country. In cases of relapsing fever, there is sudden invasion, the symptoms usually observed being shivering; rapid, full, and bounding pulse; high temperature; sickness; enlarged and painful liver and spleen; with, sometimes, jaundice, severe headache, and occasionally acute delirium, terminating with copious diaphoresis. There is no eruption. The patient remains well from this time, when a relapse takes place about the fourteenth day from the commencement, with a repetition of the symptoms, but terminating about the third day of the relapse. The disease must be treated on rational principles, no remedy appearing to have any specific effect. The mortality is small—from two to five per cent. The post-mortem changes observed are usually enlargement of the liver and spleen. It has been remarked that, when typhus fever is also prevailing, the proportion of relapsing fever has been greater at the commencement of the epidemic, and that typhus fever takes its place towards its close. For further particulars of the disease, we

---

[1] Abstract of a Paper read at the 37th Annual Meeting of the British Medical Association, in Leeds, July, 1869.

would refer our readers to Dr. Murchison's standard *Treatise on the Continued Fevers of Great Britain*, and Dr. Hudson's admirable *Lectures on the Study of Fever*.

We are indebted to Dr. George Simpson, Resident Physician's Assistant, for the following notes:—

CASE OF RELAPSING FEVER.

(Under the care of Dr. Robert Liveing.)

Robert Wait, aged thirteen, residing at Crown-street, Soho, was admitted into the Middlesex Hospital, on August 25th, under the care of Dr. Liveing. The patient said that he had been ill for six days previously, with pain in the head, back, and limbs. There had been no diarrhœa. He was much emaciated, and in a weak state. He stated that he had left for the sea, and had walked from London to Yarmouth on foot, with scarcely any money, and endured a great many privations on the way. Having got on board a ship, he there met a German sailor who was ill with what the rest called fever. He returned with his ship to London, getting very little food, and that little, bad. A few days after his arrival, he felt ill, and on the sixth day was admitted into the Middlesex Hospital. There was not much heat of skin; no eruption, nor diarrhœa. On the 26th (seventh day), the bowels were not moved. From the 27th up till the evening of September 3d (the fifteenth day), he felt quite well; but on the latter day he relapsed. Sickness came on. There was no tenderness of abdomen; it was not retracted. No enlargement of the spleen could be discovered. On the 5th he complained of great pain over the liver and spleen, chiefly over the latter. Vomiting still continued. On the 6th, he felt much better; the vomiting ceased; the splenic dulness decreased; and there was no tenderness. The patient continued well, with no further relapse, and was discharged.

The treatment consisted of a saline mixture during the first attack; in the interval, of quinine and iron; and during the relapse, of citrate of potash in an effervescing form. Brandy was also administered occasionally.

Date.	Day of Fever.	Pulse.	Temp.
Aug. 25	6th	76	95.1
" 26	7th	76	97.3
" 27	8th	70	97.4
Sept. 3	15th, 9 P. M.	100	102.4
" 4	16th, 9 A. M.	112	103.4
	9 P. M.	112	102.2
" 5	17th, 9 A. M.	102	102.4
	9 P. M.	116	103
" 6	18th, 9 A. M.	68	97.3
	9 P. M.	70	97.2

CASE OF RELAPSING FEVER.

(Under the care of Dr. Goodfellow.)

Robert Wait, tailor, aged forty, residing in Crown-street, Soho, was admitted into the Middlesex Hospital, on Saturday, Sept. 15th, under the care of Dr. Goodfellow. The patient said that he was *suddenly* seized on the previous Tuesday, the 14th, with pain in the head, legs, and back, with general uneasiness, and tenderness over the regions of the liver and spleen. There was no diarrhœa, but bilious vomiting; no delirium. He had been living in a poor manner lately, owing to want of work. He had come to the hospital to see his son, who was a patient suffering from relapsing fever, and whose case we have just given. When admitted, the tongue was furred; pulse 110, jerking, and compressible; temperature 102°; no eruption; slight tenderness over the liver and spleen. The boundaries of the latter could not be precisely defined, but it appeared enlarged. There was no jaundice. He was bathed in a profuse perspiration. He was ordered a saline mixture and pill of aloes and hyoscyamus,

as his bowels had not been moved for a day or two. On the 19th (sixth day), the pain in the abdomen had entirely left. On the 20th (seventh day), he felt quite well. He was ordered gentian and quinine. From the 20th up to the 26th, the patient continued well, and his appetite was improved. But on the 26th (thirteenth day), about 4 A. M., he awoke with headache and loss of appetite. There was no chilliness, however. The tongue was white and moist. The bowels were moved three or four times yesterday with a pill, but not since. The tenderness in the abdomen returned. From the 27th up till Oct. 1st, the symptoms declined; and on the 2d he declared he felt as well as ever.

Date.	Day of fever.	Pulse.	Temp.
Sept. 18	5th	110	102
" 19	6th	68	97.4
" 20	7th	62	97.5
" 21 to 26	8th, 9th, 10th, 11th, and 12th	72	97
" 26	13th, 9 A. M.	92	102.2
	9 P. M.	100	102.4
" 27	14th, 9 A. M.	96	100.4
	9 P. M.	106	100.4
" 28	15th, 9 A. M.	100	100
	9 P. M.	114	101.7
" 29	16th, 9 A. M.	108	99
	9 P. M.	76	97.3
" 30	17th, 9 A. M.	80	97.2

ART. 10.—*The Treatment of Acute Gout.*

(Hospital Practice.)

(*The Lancet*, September 25.)

We subjoin a note of the treatment of acute gout as followed by physicians at some of the metropolitan hospitals. It is especially as regards the use of colchicum—a most ancient remedy for gout—that we have thought it interesting and important to glean these particulars. The special power of this drug in controlling the inflammatory phenomena of the disease is generally recognized, but its *modus operandi* cannot be explained. The researches of Garrod go to show that colchicum does not increase the amount of uric acid excreted by the kidneys, nor does it in all cases increase the quantity of urine. Yet the relief obtained by the use of this drug is in the experience of most practising members of the profession.

St. George's Hospital.—For the purposes of clinical instruction, Dr. Fuller divides cases of acute gout into two classes; namely, (1) cases in which the excretory organs are organically sound and functionally active—cases in which the attack of gout is due principally to excess and indiscretions of diet; and (2) cases in which the excretory organs are in some way disordered, and fail in performing their eliminative functions—cases in which the patient is not necessarily guilty of indiscretions of diet, but in which the liver and kidneys fail in their action, either as the result of functional disorder or of organic change in their structure.

The first class of cases correspond with those which pass under the name of sthenic gout: the tongue is usually furred, the urine loaded, and the bowels are commonly torpid. In these cases, until the acute symptoms have subsided, Dr. Fuller restricts the diet to liquids, administers a saline draught containing sulphate and carbonate of magnesia and a few drops of colchicum wine, occasionally gives an aperient pill containing calomel, aconite, and opium, and wraps the joints in finely carded wool or in flannels steeped in a solution of soda and laudanum. As the acute symptoms subside, a more generous diet is permitted, and some light bitter tonic, such as tincture of gentian or calumba, is added to the mixture.

The second class of cases have more affinity with what has been termed

atonic gout; the tongue is often clean, the urine clear—sometimes of low specific gravity—and the bowels are regular. In these cases Dr. Fuller does not restrict the diet to the same degree; he allows a little meat without vegetables, and also, if desired, a glass of sherry or a little spirits and water. He acts freely on the skin by means of the hot-air bath; administers an aperient in the morning containing taraxacum and sulphate of magnesia, and during the day he gives a warm stomachic draught containing ammonia, and a few grains of soda in a light bitter infusion. Occasionally a dinner pill is prescribed containing rhubarb and a grain of colchicum; and in some instances, characterized by pale clear urine, a draught containing quinine, the mineral acids, and taraxacum, is substituted for the mixture just referred to. In these cases, as soon as the acute symptoms have subsided, a drachm of the syrup of phosphate of iron is given each morning before breakfast.

Middlesex Hospital.—In the treatment of acute gout, Dr. Murchison commences by clearing out the bowels with colocynth, blue-pill, and henbane, and then he relies mainly on alkalies and colchicum, the bicarbonate of potash and colchicum wine. With these he usually combines the nitrate of potash, and in private practice the patient is also instructed to drink lithia water. In rare cases where there is irritability of the stomach, it may be necessary to subdue this by bismuth, magnesia, lime-water, and ice, with sinapisms to the epigastrium, before giving colchicum. The inflamed joints are covered with pledgets of lint moistened with laudanum, or with belladonna liniment and oil-silk, and the whole enveloped in cotton-wool. Opiates are not given, except in rare cases where the pain is protracted and severe, and not even then unless the bowels be well open, and the urine free from albumen. The patient's diet is restricted for the most part to milk and farinaceous articles.

Westminster Hospital.—Dr. Radcliffe thinks that, during the last twenty years, there has been a great change in the character of the cases of gout, which fall under the physician's notice. The acute gout of old, he believes, is now rarely met with. It is much more common to meet with the subacute form—the form, that is, which is more nearly allied to rheumatic gout. Dr. Radcliffe does not employ colchicum. In a case of gout where some part of the foot is involved, he raises the limb to a height above that of the pelvis, gives diluents, iodide of potassium, alkalies, and no colchicum. Nor does he give purgatives. He diminishes the allowance of port wine and beer.

Charing Cross Hospital.—Dr. Salter's treatment of cases of acute gout does not differ, in any essential particulars, from the general management of such cases; and the results are such as, in his opinion, to entitle the treatment to be considered successful. It consists of the administration of certain remedies, the prescription of certain dietetic and other management, and the application to the part affected of a certain local treatment. What he generally orders is a mixture containing iodide of potassium, bicarbonate of potash, colchicum wine, and decoction of bark. He regards as groundless, in the great majority of cases, the fears that are so often expressed, of the peculiarly lowering tendency of colchicum; at the same time recognizing the fact that cases are sometimes met with which appear to be almost absolutely intolerant of it, and others that bear it very ill. He thinks that it should always be commenced very cautiously and tentatively with those who have never taken it before. He is equally incredulous of the opinion that has been expressed by Dr. Todd and others, that colchicum tends to render gout more inveterate and more apt to recur.

Dr. Salter thinks it very important, unless the case is trifling, that the patient should be kept in bed, for the sake of the perfect physical rest, for suspending all wear and tear, and for getting some sleep by day in case the rest is much disturbed at night. He prescribes a light and simple diet—farinaceous foods made with milk, beef-tea, and fish. He does not by any means consider stimulant a *sine quâ non*; he very often gives none at all; and in cases where the patient's condition absolutely requires it, he prefers claret, or claret and potass-water, to anything else. Unless the pain is very severe and distressing by day, he does not give any sedative except at night, when he gives a sufficiently large dose to command sleep, whatever that dose may be.

Dr. Salter's local treatment—and this is the only thing that is at all peculiar

—consists in the application to the affected part of a lotion consisting of a drachm of iodide of potassium, an ounce of bicarbonate of potass, and a pint of boiling water; to this he thinks a little opium may be advantageously added. Doubled lint saturated with this lotion is applied to the part affected, and covered with oil-silk; to that is put a layer of cotton-wool, and the whole swathed in a flannel bandage. The lint should be taken off from time to time, and re-dipped in the lotion. The relief that patients experience from this application is very great. With or without this lotion, there are three other things on which Dr. Salter insists in the local treatment of a gouty joint—perfect physical rest, protection, and preventing the part affected being too dependent.

ART. 11.—*On the Treatment of Scurvy by the Binoxalate of Potash.*

Communicated by W. H. TAYLOR, M.D., from Observations made in the Arctic Regions by J. W. TAYLOR, F.R.G.S., F.G.S.

(*The Lancet*, June 5.)

The following are the conclusions at which Dr. Taylor has arrived:—

1st. That scurvy arises in a great measure from a deficiency of albumen in the blood.

2d. That the diet of sailors and persons who suffer from scurvy contains little albumen, or albumen difficult to be dissolved and taken up.

3d. To prevent scurvy we must give some easily-digestible albuminized food.

4th. All or most of the albuminized food must be made use of, which, at present, in salt beef as supplied to merchant ships, which has been, perhaps, several voyages, and repickled over and over again, cannot be without the aid of some solvent.

5th. As an additional albuminized food, Dr. Taylor would, till improved preserved fresh meat be introduced, give occasionally each sailor a certain quantity of the uncooked white of egg,[1] which, by the addition of a very small portion of salt, and put into bottles or kegs, can be kept good for a length of time.

6th. As a solvent Dr. Taylor would give the binoxolate of potash, which would add to the power of the gastric juice, and dissolve out more of the albumen from the salt provisions.

ART. 12.—*Cases of Septicæmia.*

Under the care of Dr. DUFFIN, of King's College Hospital.

(*The Lancet*, September 18.)

The following cases are intended as illustrations of that obscure but formidable condition which is still usually designated in our class-books under the indefinite heading of Septicæmia. Whilst differing *toto cœlo* in almost every symptom, they will at least be recognized as belonging to the same class of disease. The curious pathological resemblance presented by the one to the stage of collapse in cholera, and by the other to the earlier days of typhoid fever, cannot fail to attract attention.

On the 11th December, 1868, a stout woman, twenty-two years of age, entered King's College Hospital, complaining of difficulty of breathing. She dated her illness back for about a week, previous to which time her wind had always been excellent. She also said that during the week she had had several fits of unconsciousness. When admitted, her hands were found to exhibit a deep cyanotic tint, her face and lips were blue and congested, and she was intensely cold, the thermometer indicating 96° F. A small quantity of blood was noticed about her gums. No pulse could be detected in any branch from the axillary artery downwards in either arm. From the common femoral downwards, also, all

---

[1] Mr. J. W. Taylor found that, after eating eggs for a short time, the pliable nails were soon restored to their natural tone, and other symptoms improved.

trace of arterial pulsation had ceased; and only a feeble impulse could be obtained in the carotids. The heart's sounds were in every respect normal, the impulse was firm, and the rhythm preserved; the number of beats was about 90. Even at the clavicles the first cardiac sound could be distinctly heard. The breathing over the whole of both lungs was so intense as to amount to puerility. No dulness existed anywhere. She had not passed urine since the morning, and the bladder was empty; but she said that up to the previous night the amount of secretion had been satisfactory. Her intelligence was prefectly lucid; but while her chest was being examined, three hours subsequently, she suddenly fell into a distinct epileptic fit. This was followed by severe coma, but after an hour her intelligence returned. After another half-hour, however, a second epileptic attack supervened, and she fell into a state of coma, out of which she never rallied, dying five hours after admission.

On post-mortem examination, the blood was found universally fluid. There was no embolism of either artery or vein. Hundreds of minute hemorrhages, varying in size from a pin's-head to a marble, were scattered over the various serous surfaces—the lungs, mediastinum, substance of the heat, roots of great vessels, &c. The endocardium was much stained, but the valves of the heart were healthy. No inflammatory product was found anywhere. The lungs had collapsed well, their weight being rather below the average. The kidneys were fatty. The bladder contained some urine with a sixth of albumen, and some fatty and waxy casts, but no epithelium or blood.

R. C——, aged twenty-four years, a general servant, began early in May, 1869, to suffer from pain and stiffness in the ankles and wrists. These at the end of a fortnight compelled her to take to her bed. A general sense of prostration and languor now came on, associated with slight rigors and occasional epistaxis. The temperature ran up to about 101° F., the pulse quickened to between 90 and 100, and she was troubled with a good deal of nausea, and almost daily vomiting. There was a total absence of typhoid spots, as well as of diarrhœa, and abdominal tenderness. Her nights' rest became very indifferent; but this was the only sign that gave rise to any anxiety. Thus she continued for three other weeks. During this time a peculiar flush developed on the face, of a full rose color, very irregular in shape, but symmetrical, and at first only present on excitement. After a few days this became permanent, the color deepened, and, without the original shape of the flush being in the least changed, it was evident that slight infiltration of the cutis existed over the spot. The cuticle, at first healthy, then scaled slightly over the more central part of this rash. When this efflorescence had existed about ten days, it was found that the redness was becoming dusky, and did not change on pressure. A few distinct circular islets of the same character had also formed about the circumference of the great central patch. Under these circumstances she was admitted into the above hospital.

June 8th.—Except this peculiar rash on the face, a little redness of the fauces, and a foul tongue, she seemed in perfect health. Nevertheless, the insomnia, which had scarcely allowed her an average of two hours' sleep each night for fully three weeks, and the dusky petechial of the rash of the face, suggested anxiety. It was soon observed that her diurnal temperatures presented the most irregular variations, anywhere between 97° and 103°. A fresh burst of rash was observed on the left side of the chest, almost identical with that on the face, but occupying small distinct centres varying from the size of a pin's-head to a shilling. All these were from the first distinctly hemorrhagic. Still, all the general functions were performed normally. Menstruation set in on the 11th, and soon amounted to a painless hemorrhage. Thus she continued till the night of the 15th, when, after a transient rigor, her temperature rapidly shot up to over 105°, her pulse mounted to 130, and she had severe vomiting.

The next day her countenance was indicative of extreme anxiety. Her tongue had become dry and tremulous; it required an effort for her to protrude it. She had almost universal muscular quivering. Extensive loose râles and rhonchi were audible over the whole chest, and the crepitus at the left base was almost fine enough for a pneumonia. The urine for the first time was found to contain a trace of albumen. The intelligence remained perfect.

Two days later, on the 17th, all these signs continuing, loose râles became audible all over the chest, and there was distinct dulness at the base of the left lung. The daily variations of temperature exceeded four degrees, the evening limit always reached 105°. General hyperæsthesia had come on, and there was a little nocturnal delirium. The number of the petechiæ had increased. The urine flow continued. The following day she sank into coma-vigil, and died on the fifth day from the rigor.

Post-mortem examination.—In each pleural cavity there was a small quantity of serous pus, about two-thirds of a pint in the left pleura, and half that quantity in the right one. Some greenish, sticky, friable lymph was also developed at the base of either pleura. In the centre of the lower lobe of the left lung a small patch of pneumonic consolidation existed, and the rest of that lobe was carnified and tough. The lungs otherwise were extensively œdematous. The endocardium was much stained, the muscles generally very dark, and the blood universally fluid. The total absence of any trace of internal hemorrhage, either in the interior of the organs, or on serous surfaces, gave rise to considerable astonishment. Peyer's patches were found in a normal condition, the spleen small, and all the other organs perfectly sound.

Art. 13.—*On Typhus Exanthematicus.*

By Dr. Julius Theurkauf, of Lehre, in Brunswick.

(*Virchow's Archiv*, April and June; and *Edinburgh Medical Journal*, December, 1868.)

After an elaborate paper, the author gives the following *résumé* of his results:—

1. The occurrence of spotted typhus is favored by overcrowding, bad ventilation, insufficient, and particularly vegetable food, and mental depression.
2. It is propagated by contagion, mediate or immediate.
3. One attack diminishes, but does not destroy, liability to another.
4. The period of incubation is usually from fourteen to nineteen, never less than eight days.
5. The period of desquamation is favorable to contagion.
6. It affects more men than women, and most frequently people in the prime of life.
7. The contagiousness diminishes the more the disease is propagated from one to another.
8. It lasts from eleven to seventeen days; if the illness is prolonged, it is from the occurrence of complications.
9. The cutaneous symptoms are especially characteristic by the measly rash, which appears on the third or fourth day, and disappears five or six days afterward; it affects the trunk and extremities.
10. The petechiæ are not constant, merely complications. They arise mostly independently of the measly spots, but may originate with them.
11. Miliary eruption is much rarer than in typhoid, and was never observed along with petechiæ.
12. In the third week furfuraceous desquamation of the skin occurs, and afterward the hairs fall off.
13. The nervous symptoms are irritation during the period from the commencement of the fever till the rash is disappearing, thereafter depression until convalescence is established.
14. The temperature in the earliest days reaches 31.5° to 32° R., and increases to 32.5° to 33° at the perfect formation of the rash, without marked remission. During the continuance of the rash that temperature is kept up, but in the mornings there may be remissions to the extent of ½° or 1°. As the rash disappears the temperature falls, and the morning depression is more distinct. During convalescence it may fall below the normal standard.
15. The frequency of the pulse and the respiration is not uniformly related to the temperature, and can only be used with caution in judging of the fever.

16. The quality of the pulse is also various, and may be materially modified by the strength of the patient. It is generally full, weak, and compressible. The dichrotism, though rarer than in typhoid fever, is met with during the stage of eruption. It results from a momentary interruption of the contraction of the heart, which in rare cases produces a double systole.

17. The urine, usually red and turbid, is, up to the fading of the rash, constantly diminished and of high sp. gr. (1020 to 1028); from that time to the end of the disease the quantity increases, and it becomes less dense. During convalescence it may fall to 1006 to 1012. There is rarely any sediment. It speedily becomes alkaline, especially in the nervous stage.

18. Catarrhal inflammation of the conjunctiva, the mucous membrane of the nose, the throat, and the bronchi, is constantly present, and most marked during the existence of the rash.

19. The tongue resembles that of typhoid.

20. Constipation is common; diarrhœa is an occasional complication.

21. Bleeding from the nose and gums is common.

22. Enlargement of the spleen appears before the eruption is most marked, at the beginning of the second week (four times the natural size), but the organ is, at the end of the disease, of normal size.

23. Death occurs usually at the climax of the disease from the severity of the malady, or in the third or fourth week from complications.

24. The anatomical changes, corresponding to those of typhoid, excepting in the intestinal lesion, are, fluid oily appearance of the blood, congestion of the brain and its membranes, softness and brownish color of the muscles, bronchial catarrh, congestion of the liver, normal bile, enlargement of the spleen.

25. The diseases which the exanthematic typhus follows are, typhoid fever, smallpox, chronic dysentery, and pneumonia.

26. The diseases with which the exanthematic typhus was associated were, syphilis, epilepsy, jaundice from calculus, tuberculosis, and emphysema.

27. The chief complications are, angina crouposa, catarrh of the intestine, inflammations and ulcerations of the larynx, bronchitis, lobular and lobar pneumonia, parotitis, herpes, and decubitus gangrenosus.

28. The prognosis is rendered unfavorable when unhealthy individuals are attacked, or by the occurrence of high fever, nervous symptoms, numerous petechiæ, hemorrhages, rapid alkalescence of the urine, and important complications.

29. Good ventilation is most important.

30. Treatment must be expectant symptomatic.

31. Emetics and calomel in heroic doses neither cut short nor alleviate the disease.

32. Warm baths, calomel, and opiates in small doses, are useful as relieving symptoms.

Art. 14.—*On Scarlatina.*

By Walter Fergus, M. D.

(*The Lancet*, November 20.)

The chief point in the treatment of scarlatina is, not to be overmuch afraid of your enemy, and to put a *quasi* faith in the issue of the battle being on the side of recovery. Medicines easily become poisons in this disease; a smart purge or a repeated emetic not unfrequently changes a moderate and regular attack into one of peril, increasing the danger of all the symptoms. Next to a good supply of air and a comfortable bed, *quietness* is of the utmost consequence; a fussy nurse or over-anxious parents turn the scale against a patient with unerring certainty. Everything about a sufferer from scarlatina should be as quiet and as cheerful as it is possible to make it. An emetic of sulphate of zinc and ipecacuanha wine, in the *earliest* stage of the disease, is of use, helping as it generally does reaction; but it should not be repeated with a view of cutting short a disease which *will* run its course. If the patient can be

kept alive for from seven to nine days, he will most probably make a good recovery. After the emetic, the patient should be allowed to sleep as much as possible; the more he sleeps on the first two or three days of the attack the better in all probability will be the result. At the end of that time, in most cases, all sense of depression or oppression will have passed away, and, quietness being maintained, an uninterrupted recovery ensues. Two remedies have proved almost equally useful: chlorine gas in a sweetened solution is most grateful to the patient, and evidently helps him in his battle; but a better medicine is the liquor of acetate of ammonia with a considerable excess of carbonate of ammonia, with ten minims of spirit of nitric ether in each dose. It should be given in doses repeated with greater frequency in severe cases. Gargles are useful in cooling and relieving the throat: a weak solution of chlorine gas sweetened, or of Condy's fluid, answers well as a gargle. It is a good practice to make a patient gargle before taking food or medicine. Nitrate of silver or strong hydrochloric acid must be used if there is much blocking up of the fauces, or gray patches on their surface. Ice is of immense use where there is either great throat affection or sickness. The pleasantest drink is soda water given freely, with wine added where wine is required.

The disease seems to produce a stretching or distension of every soft fibre and structure of the body. All treatment should be directed to the restoration of tone to the distended and weakened structures; with this view iron and quinine may be given early in the attack. From the fifth or sixth day six grains of the sulphate of iron, magnesia, and quinine[1] should be given *with* the ammonia draught. This mixture may be continued till convalescence is complete. Towards the end, in many cases, the sulphate of iron, magnesia, and quinine may be given alone in from fifteen to twenty grain doses. In this form the iron and quinine rarely disagree with a patient, and aperients are seldom required during its use. The external treatment is of great importance; rapid sponging with vinegar and water is called for if the patient does not sleep, or if there is much irritation of the skin. In cases with extreme development of the rash and burning skin, the cold douche, rapidly given, acts like a charm. The patient, placed in a sponging-bath close to the bed, has four to five washhand basins of cold water poured in quick succession over him, is quickly rubbed dry, and put to bed, when, if the treatment has done good, he drops off to sleep almost at once. Warm baths early in ordinary cases do harm, nor should they be used until a certain amount of restoration of tone has taken place. Anointing with fatty substances early in the disease is not likely to benefit the patient; it may arrest to a certain extent the diffusion of the separated cuticle. Scrubbing a patient with carbolic soap in a bath ought to be postponed till a very late period of the disease. Before the restorative stage is reached, every exertion on the part of the patient should be avoided. Close stools near to the bed should be provided, and kept always charged with a disinfectant. If a warm bath is given, it should be brought close to the bed, and the patient ought not for any purpose to leave his bedroom till he has recovered his strength and appetite.

In none of the cases treated on the plan indicated has there been a disposition to the formidable sequelæ of scarlatina. In many of the cases albumen appeared in small quantity from the fourth to the sixth day, uniformly disappearing in from three to four days. Albuminuria was more frequent in the cases treated with chlorine gas, which was on that account finally abandoned for the ammonia and tonic treatment.

A well-regulated and sufficient diet, with a change of air, as soon as a removal is prudent, completes the recovery. Occupation, especially mental occupation, must be cautiously resumed. The brain, as much as any other organs, suffers from the stretching process of scarlatina. Early in the disease, books, conversation, light, and loud noises should be avoided. Long after recovery the brain frequently shows signs of slow restoration of power.

---

[1] The magnes. ferri et quinæ sulph., as sold, contains, in twenty grains, one grain of sulphate of quina, three grains of sulphate of iron, and sixteen grains of sulphate of magnesia. In the form of powder it keeps well for a long time, without oxidation of the iron.

SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(A) CONCERNING THE NERVOUS SYSTEM.

ART. 15.—*The Physiology and Pathology of the Cerebellum.*

By WILLIAM A. HAMMOND, M.D.

The number for April last of *The Quarterly Journal of Psychological Science*, contains a highly interesting paper on this subject by the editor, Dr. Wm. A. Hammond, which was read before the New York County Medical Society, Jan. 4, 1869. He reviews somewhat at length two of the more commonly received hypotheses which had been advanced relative to the functions of the cerebellum.

First, that it is the originator and controller of the sexual appetite—an hypothesis promulgated by Gall. Dr. H. concludes that "the fact may be regarded as unquestionable, that lesions of the cerebellum do occasionally give rise to abnormal sexual manifestations, either of increase or diminution. * * * * Observation, however, shows us that, as in the lower animals, other parts of the cerebro-spinal axis participate in this connection, and that the integrity of the cerebellum is not at all essential to the existence of strong venereal propensities."

Second, that it co-ordinates the various muscular actions of the body—an hypothesis which originated with Flourens. "The arguments which may be brought against it are, however," the author states, "so forcible, and experiments performed upon animals of different classes are so strikingly against it that I am forced to regard his doctrine as untenable."

In addition, the records of pathology furnish evidence which is absolutely fatal to its pretensions.

"1. The consequences of removal of the cerebellum, if the animal survives the immediate effects of the operation, are not enduring.

"2. The entire removal of the cerebellum from some animals does not apparently interfere in the slightest degree, even for a moment, with the regularity and order of their movements.

"3. The disorder of movements which results in birds and mammals immediately after injury of the cerebellum is not due to any loss of coördinating power, but is the result of vertigo.

"4. The phenomena of cerebellar disease or injury, as exhibited in man, are not such as show any derangement of the coördinating power.

"5. In those diseases, of which the chief phenomena relate to derangement of the coördinating power, the lesion is not in the cerebellum, and the symptoms are altogether different from those due to cerebellar disease or injury."

These several propositions are supported by arguments drawn from experimental physiology and pathology.

Dr. Hammond concludes that the cerebellum "has no special or exclusive function of any kind, but that it is simply an additional generator of nervous power, a ganglion to be added to the cerebrum, and performing analogous offices in the economy."

ART. 16.—*Report on the Treatment of Delirium Tremens in the Hospitals of Great Britain.*

(*British Medical Journal*, July 3.)

It is interesting to note in the following report, which gives a fair idea of the state of opinion in the profession on the subject, the great change which has taken place in the last few years in the treatment of delirium tremens. Instead of the heroic doses of opium, which were almost as a matter of course given in cases of this disease, opium is now used only by some physicians, and by them

in comparatively small doses; the excessive treatment by alcohol has given way to more moderate measures, and now it is given up altogether, or stimulants are administered in much smaller quantities, while judicious nursing, except on rare occasions, has taken the place of the strait jacket. It is satisfactory to find that all are agreed as to the great importance of abundant nourishment of the best kind, and perfect rest.

Charing Cross Hospital.—Dr. Salter's treatment is sedative, pushed to extremity, aided by stimulants, and, above all things, *feeding*. The results which he has obtained have been uniformly such as, in his opinion, leave nothing to be desired.

Middlesex Hospital.—Dr. Goodfellow is not inclined, during the early part of the disease, to interfere greatly. His treatment is mainly expectant and dietetic, abundance of nourishing food being allowed. Should the urgent symptoms, however, continue, subcutaneous injections of morphia, from a fourth of a grain upwards, according to circumstances, are given; and stimulants, spirits, or beer, as the case may be. The following mixture Dr. Goodfellow has found frequently of great service.

℞ Quinæ disulphatis gr. ij; chloroformi ♏xx; tincturæ cardamomi comp. ʒj.
To be taken in water every four or six hours.

If there be much febrile disturbance, a grain of opium with a grain of calomel is prescribed.

Dr. Murchison advocates no special rule, his mode of treatment depending upon the individual character of the case. Generally speaking, however, he employs opium if there be no renal affection, but if this be present, he believes tincture of digitalis, in twenty or thirty minim doses, offers considerable advantages. He thinks stimulants in some cases useful, but he by no means employs them in all cases. Nourishing food and quiet are, however, invariably necessary.

St. Bartholomew's Hospital.—Dr. Farre always takes care to get the bowels open at first. He then gives opium; or, if the pupils have any disposition to contract, opium and antimony several times a day. If sleep be not induced by this means, he uses cold affusion to the head. Wine or beer is allowed, if the pulse be low, or the skin perspiring. He has given half-ounce doses of digitalis in several cases, without injury, but without marked benefit.

St. Thomas's Hospital.—Dr. Peacock has been lately employing bromide of ammonia in delirium tremens with very good results.

Westminster Hospital.—The plan of treatment which, as a rule, Dr. Fincham adopts is as follows: He cuts off at once all alcoholic stimulants, and administers directly abundance of easily digested and nourishing food—*e. g.*, three pints of strong beef-tea, and one of arrowroot and milk, given in divided quantities every two hours, as in a case of fever. If, by giving one or two pints of porter, he can get food taken more readily, Dr. Fincham allows that quantity. As soon as possible, he urges the patient to take solid food, in the shape of meat, given as regular meals, with porter; continuing, at the same time, beef-tea, etc., in less quantity. Dr. Fincham gives no opium. If, at the commencement of treatment, the patient appears much exhausted, he gives ammonia; but, as a rule, prefers to give, as medicine, hydrochloric acid in some bitter infusion, in order to increase the appetite and assist digestion. If the patient has been drinking hard up to the time of his coming under treatment, Dr. Fincham has found, on several occasions, great and rapid improvement take place after the action of a brisk purgative—*e. g.*, calomel and colocynth, or a drop or two of croton oil. This must, of course, be followed by the due administration of nutritious food, etc. Dr. Basham thinks that the treatment of delirium tremens cannot easily be reduced to a plan, as each case must be regarded as a separate study. The effect of fermented stimulants on the nervous system, when acting as a poison, although manifesting for the most part a series of morbid phenomena common to all, nevertheless requires a marked modification of treatment in different individuals. Thus total absence of sleep, hallucinations more or less of one type, an excitable restless manner, complete loss of

appetite or power to take or digest solid food, and very depraved alvine excretions, are the common typical symptoms of that disorder of the nervous system known as delirium tremens. The great object of remedial treatment is to allay or calm the excitable but exhausted nerve-force. Sleep and rest are the points aimed at. But sleep will not follow the use of any one known agent. There are peculiarities, whether of the nervous system itself in each individual, or of the relation of the nerve-force to the other functions of the organism, which must ever shut out the idea of one remedy or one plan of treatment being entirely effective. It has ever appeared to Dr. Basham characteristic of a limited experience, to expect or to hold out the hope that any one special remedy will be universally applicable in this disease. Opium, digitalis, antimony, have their advocates; and, doubtless, occasional successful results follow their use in particular cases. Of these, opium, perhaps, has been most largely used—in many cases with great advantage. It often quickly procures sleep; and, with that result once obtained, the paroxysm may almost be pronounced to be at an end. But it is only in a certain class of cases that opium is thus immediately beneficial. Take a case of delirium tremens accompanied by a good deal of vascular meningeal excitement; hallucinations of the usual type; hideous images; mental aberration; irritable, excitable manner; nights without sleep; heat of scalp; suffused conjunctiva, and pupils contracted; a sharp, quick, hard pulse. Give such a patient opium, and it will either poison him or bring on a deep comatose condition of great hazard; or, if the quantity given does not act thus, it adds to the excitement, and aggravates the symptoms to a pitch little short of those of arachnitis. Now if, with proper discrimination, some ten, dozen, or eighteen leeches had been applied to the scalp, followed by a brisk calomel purge, and then a moderate dose of opium, a grain or twenty minims of Battley, probably a different and more favorable result will follow. The chief aim in the treatment of delirium tremens is to allay the present paroxysm and obtain sleep; and the best remedy to secure this can only be found by a careful estimate of the idiosyncrasies of the individual, and of the presence or absence of morbid complications in other organs or functions beyond those of the nervous system.

Netley Hospital.—The system on which Dr. Maclean goes in the treatment of delirium tremens is, first to secure perfect quiet and seclusion for the patient, placing him under the care of careful and trustworthy attendants, who are instructed to use every means to calm and reassure the sufferer. The dangerous practice of forcing sleep by opiates he never under any circumstances follows; nor does he allow the blood of a patient already poisoned by alcohol to be still further charged by the use of stimulants. Instead of this, he insists on the administration of strong beef-tea at short intervals, to which cayenne pepper has been freely added. Without the addition of pepper, the stomach will rarely retain the nourishment. Food is absolutely necessary. A man who has been drinking to such an extent as to bring on this formidable affection, has, nine times out of ten, been eating little or nothing. Dr. Maclean is a great advocate for a darkened room and careful nursing by judicious male attendants. Women cannot restrain patients who, in terror at the imaginary objects of "horror" by which they are surrounded, are apt to be violent. He regards with well-founded disfavor the system of forcing sleep by large doses of morphia, and has seen more than one person die with all the symptoms of narcotic poisoning, who were thus treated.

Queen's Hospital, Birmingham.—The following is Dr. Fleming's treatment of delirium tremens. The patient is placed in bed. All harshness or restraint, unless absolutely necessary, is carefully avoided. Tranquillity and a free supply of pure air are secured. The face, neck, and arms are sponged from time to time with tepid water. As a drink, Carrara water or toast and water is given freely. For diet, the patient has at first milk and strong beef-tea alternately every four hours, and gradually, as the appetite improves, chicken, mutton, etc., until the stomach can accept the ordinary food. Alcoholic stimulants in every form are stopped at once and entirely. If there be any manifest symptoms of faintness, the following is prescribed:—

℞.—Ætheris chlorici (Duncan and Flockhart), spiritûs ammoniæ aromatici, sing. ʒij; tincturæ lavandulæ comp. ʒiv; spiritûs vini gallici ʒx. Two drachms for a dose, in a wineglassful of water, every two or four hours, according to circumstances.

The further addition of alcoholic poison having been stopped, the objects of treatment are—1, to eliminate the poison already in the blood; 2, to control its effects; 3, to favor convalescence. To promote elimination by the skin and kidneys, the following mixture is given:—

℞.—Spiritûs ætheris nitrosi, liquoris ammoniæ acetatis, sing. ʒv; sodæ phosphatis, sodæ et potassæ tartratis, sing. ʒv; aquæ ad ℥xx.—M. Two ounces every four hours, two hours before meals.

Should an active purge be indicated, Dr. Fleming gives the colocynth and hyoscyamus pill, with from half a grain to a grain of the acetic extract of colchicum. The second object of treatment, that of controlling the effects of the poison, is attained by the administration of a mixture of ten drachms of dilute phosphoric acid with twenty drachms of tincture of hops. Of this, two drachms are to be taken every four hours, one hour before food, in a large wineglassful of water. This helps to sustain the patient, and lessens the feeling of depression. At bedtime, the following draught is ordered:—

℞.—Tincturæ cannabis ♏xxx ad lx; liquoris morphiæ acetatis ♏xv ad lx; spiritûs ætheris nitrosi ʒj; aquæ pimentæ ad ℥ij.—M.

This seldom fails to induce sleep. This medication is pursued until convalescence is established, when the tonic regimen is strictly enforced, including good food, pure air, cold bathing, with zinc and iron as blood-tonics. This treatment has furnished very good results: and Dr. Fleming considers that it compares most favorably with other modes of cure.

Aberdeen Royal Infirmary.—Dr. Harvey has long since abandoned the practice of treating delirium tremens with heroic doses of opium, and of using much restraint with the jacket. His treatment of it has been, on the whole, "expectant"—letting the patient alone, giving him plenty of food, and moderate exercise in the ward or out of doors, if in a condition for it. He is inclined, however, to think that, from his knowledge of the *calmative* action on the nervous system of bromide of potassium in full doses (twenty to thirty grains, repeated daily, at short intervals), this article of the materia medica will be found to prove a valuable remedy in the graver forms of the disease.

Edinburgh Royal Infirmary.—Dr. Laycock has treated a considerable number of cases. The following notes have been kindly compiled and sent us by Dr. David Ferrier, his late clinical assistant. In all cases of delirium tremens, Dr. Laycock insists at the outset on perfect quite. The hands and feet are washed; the room kept cool and fresh, but not cold. No mechanical restraint of any kind is attempted. Food is given, of a quality and kind suited to the state of the stomach. At first, it is often refused; in which case it is administered in a concentrated form (beef-tea, etc.), in small quantities, at intervals of one or two hours. If the breath smell of drink, and there be reason to think that the patient is laboring under an overdose, a gentle emetic is prescribed. In other cases, emetics are not employed. In the majority of cases, there is stomachic or biliary derangement. In some, food is vomited, or, if retained, caused pain, because of the congested and inflamed state of the mucous membrane of the stomach. In such cases, a pill containing a third of a grain of nitrate of silver, a third of a grain of hydrochlorate of morphia, and a sixth of a grain of calomel, gives great relief, and lessens the desire for stimulants. In cases of constipation and hepatic congestion, podophyllin, calomel, colocynth and hyoscyamus, castor oil, etc., are ordinarily used. Podophyllin seems to have good effect. The following formula has been used by Dr. Laycock with advantage: Two grains of extract of podophyllin, and a scruple each of compound cinnamon powder and extract of hyoscyamus, with a sufficient quantity of mucilage; the mass to be made into four pills, and one to be taken every six hours till the bowels are moved. In the majority of cases, no other method of treatment is adopted than rest, nutrients, and purgation if

necessary; and the method is followed by complete success. A favorable termination is expected, independently in most cases, of active remedies, in from four to fourteen days. The average duration of treatment is six days; and such also seems to be the result of cases treated more lately by Dr. Sanders according to the expectant method. Medicinal agents are used, with the purpose of favoring the natural tendency to recovery. The effect of drugs used to this end cannot in many cases be satisfactorily determined, since it is dificult to eliminate, from the influence of the drugs employed, the share due to diet and regimen, and that due to nature. It seems probable, that they exercise an influence over the intensity of the symptoms, although they may not either cause sleep or shorten the duration of the disease. The indications for the employment of alcoholic stimulants are drawn from the condition of the patient. When food has not been taken for several days, and the hallucinations are of a frightful or distressing kind, and especially when the pulse is very quick and feeble, the first sound of the heart heard indistinctly, the tongue coated, œdematous, and indented at the edges, wine and brandy may be administered medicinally with advantage. Except in such cases of protraction, alcoholic stimulants are not employed. Great caution, Dr. Laycock thinks, is shown in the administration of opium and its salts. It is never given in cases which indicate any tendency to serious encephalic lesion or insanity. These cases are characterized by a tendency to aggressiveness, where the notional delusions predominate over the hallucinations of the senses, and where the state of the pulse and nervous system indicate the sthenic rather than the asthenic type of delirium. It is not always easy to determine beforehand when opium tends to produce greater prostration and distress. Generally, however, the patient is of a nervous habit, with a florid complexion, or at least has had, and is of a neuro-vascular diathesis. When not contraindicated by these conditions, opium is sometimes administered with advantage, but never in more than ordinary doses; and regard is always had to the effect of the drug in exciting contraction of the pupils. The want of sleep is often the result of a morbid apprehension of sleepless nights; and, in such cases, a placebo, administered with the assurance that it is a powerful hypnotic, is often successful. Where there is great exhaustion, and morphia is inadmissible, camphor in from two to three grains every three hours, or the carbonate of ammonia combined with camphor and hyoscyamus, often prove useful. Cases intolerant of opium or stimulants of the sthenic type, and especially where there is some inflammatory complication, as pneumonia, are successfully treated by small doses of tartar emetic. Dr. Laycock has not much experience of digitalis. From the results of several cases treated by Dr. Sanders in the Royal Infirmary, Edinburgh, with half-drachm doses of the tincture of digitalis three times a day, it has proved beneficial. All the cases treated in this way were severe cases, and all recovered speedily. The administration of the drug was discontinued when the pulse became moderate and the sign of delirium had abated. The average duration of stay in the hospital was seven days. Chloroform has been employed in very violent cases with advantage—viz., in those cases where great exhaustion would follow continued raving and struggling; thus demonstrating the patient's powers of recovery.

Art. 17.—*Hoarseness and Loss of Voice in relation to Nervo-Muscular Affections of the Larynx.*

By Morell Mackenzie, M.D.

(*London Hospital Reports*, vol. iv.; and *British and Foreign Medico-Chir. Review*, July.)

In the present paper Dr. Mackenzie treats of the morbid affections of the larynx which are dependent upon derangements of the nervous system, and which, though hitherto difficult to distinguish during life, are now in some measure capable of being recognized by means of the laryngoscope, the vocal cords being seen to act irregularly in many such cases, while in others the

muscles on one side or the other are visibly wasted. The nervous affections of the larynx are divided by Dr. Mackenzie into diseases of motor system and diseases of the sensory system, the latter being, however, much fewer in number than the former. The disease of the motor system are again divided by him into (1) paralysis of the vocal cords, and (2) spasm of the vocal cords. The paralytic cases are divisible into various groups, according to the muscles or the groups of muscles affected.

These divisions and subdivisions are described at considerable length and with great minuteness by Dr. Mackenzie, and illustrated wood-cuts are occasionally given to exhibit the appearances presented by the vocal cords in some of these affections. It would be impossible to follow Dr. Mackenzie through the details of his paper without transcribing a large part of the voluminous descriptions and diagnostic signs in which it abounds, and in the present abstract it is only possible to advert to some of the most striking points to which he draws attention. Many of the cases described being what are called nervous or hysterical will yield to appropriate constitutional treatment, but Dr. Mackenzie attaches great importance in many nervo-muscular affections of the larynx to the use of electricity, applied by means of an apparatus devised by himself, and figured in the plates accompanying the paper. By means of this apparatus one pole of the battery is introduced within the glottis, and the other is applied externally, and the current is thus made to pass through the larynx. Dr. Mackenzie states that out of more than 200 cases which he has treated in this way, he has met with only four in which he has been unsuccessful. In certain cases, however, Dr. Mackenzie applies the current in a somewhat modified manner, the extremity of one pole being introduced into the larynx, and the other into the hyoid fossa, so that the current passes right through the adductor of the vocal cord, to which it is applied.

In two engravings Dr. Mackenzie represents respectively a case of cancer of the thyroid gland, and one of aneurism of the arch of the aorta, in both of which there was paralysis of the abductor of the left vocal cord, and both of course, terminated fatally. Among the spasmodic affections of the vocal apparatus, Dr. Mackenzie describes the affection known as the laryngismus stridulus, which he considers a disease of adult as well as of very early years, although there is considerable difference in the symptoms in these two cases.

ART. 18.—*Case of Epilepsy successfully treated with Assafœtida.*

Under the care of Dr. POLLOCK, of Charing-cross Hospital.

(*The Lancet*, August 21.)

The following case is interesting not less as an example of failure of the bromide of potassium to influence the recurrence of fits described as epileptic in character, than from the successful results attending the use of assafœtida.

C. Y——, an unmarried woman, twenty-nine years of age, applied at the hospital in November, 1868, suffering from epileptic fits. She said she had been liable to them since she was nineteen years of age, and that they had been gradually increasing in severity and frequency, usually attacking her once or twice in a fortnight. She loses all consciousness, falls down, struggles violently, bites her tongue and lips, exhibiting, in fact, all the usual phenomena of an epileptic fit, ending with a deep sleep, from which she wakes much exhausted. The attacks come on quite unexpectedly. She has a sallow complexion, and the distressed and anxious look so common in epileptics. Her general health is pretty good, and she menstruates regularly. The case was first treated with bromide of potassium, gradually increasing the dose from fifteen to forty grains three times a day, but without the slightest benefit. Sulphate of zinc, quinine, and tincture of iron were all tried in full doses, but no good result followed. In April last half a drachm of tincture of assafœtida with three grains of carbonate of ammonia was given three times a day, and with a most satisfactory effect. Since the first week that the remedy was tried she has had no return of the fits,

though she suffers at times from headache and a feeling as if a fit were coming on. She has her medicine renewed occasionally, and is still under observation.

Dr. Pollock remarks, that if the fits had not been so clearly epileptic (she had one on one occasion while being seen at the hospital), it might be supposed that the case was one of hysteria; but there can be no doubt as to the nature of the disorder, though it is accompanied by some symptoms of a nervous character, which first led to the employment of the assafœtida.

The hint afforded by this case has been taken advantage of, and other cases of epilepsy have been treated with the same drug, but at present, without any decided results. It may be worth while, Dr. Pollock suggests, to adopt the mode of treatment in cases where other medicines have been given without affording any relief.

Art. 19.—*Treatment of Nervous Headache.*

By William A. Hammond, M.D.

(*The Medical Record*, March 1.)

The following remedies in the treatment of this affection are recommended by Professor W. A. Hammond: Oxide of zinc is of great value; ordinary dose, two grains three times a day, after meals; maximum dose, five grains. It is best given in the form of pills. Bismuth, in the form of subcarbonate, will often take the place of oxide of zinc. Dose, two grains after each meal. Bismuth probably assists digestion more than any mineral tonic, and is of use when there is gastric disturbance.

Art. 20.—*Certain Forms of Paralysis Depending on Idea.*[1]

By J. Russell Reynolds, M.D., F.R.S.

(*British Medical Journal*, October 2.)

The object of the paper was to show that some of the most serious disorders of the nervous system, such as paralysis, spasm, and other altered sensations, may depend on the morbid condition of idea, or of idea and emotion together. Such symptoms, it was said, often existed for a long time, and resist many different kinds of treatment, and disappear entirely upon the removal of the erroneous idea. Instances were given of the acute effects of idea, emotion, and startling intelligence. The severity of some symptoms was also described as arising from mental emotion and disturbance, though there was no genuine pain. The resistance offered by these maladies to the ordinary treatment was illustrated; but in the cases adduced nothing had been done but practically to counteract the exaggerated notion of the patient, and to compel him to use the voluntary power which remained to him, but which had become for some time practically inoperative. Incurable cases were mentioned, and also the sort of diagnosis to be formed under peculiar circumstances. Earnest dealing with such cases was recommended, and the holding out of a confident expectation that if certain plans were adopted a cure would follow. He believed that there were means for remedying these cases, but the treatment could be much better applied in hospitals than in private practice.

---

[1] Abstract of a paper read at the thirty-seventh annual meeting of the British Medical Association, held in Leeds July 27th, 28th, 29th, and 30th, 1860.

Art. 21.—*On Certain Forms of Paralysis and their Treatment by Electricity.*

By Walter G. Smith, M.B., Fellow of the College of Physicians; Assistant Physician to the Adelaide Hospital.

(*Dublin Quarterly Journal of Medical Science*, August.)

The principal causes which have tended to the comparative neglect of electricity, or have been a bar to the increase of our knowledge, Dr. Smith writes, are briefly these:—

1. Imperfect physiological knowledge. Neuropathology and physiology, especially in their relations to electricity, have advanced rapidly of late years; still we are far from having a sufficiently wide basis on which to ground a perfectly successful clinical application of electricity, and in some cases we must rest satisfied with the attainment of results of practical utility, without being in a position to explain them satisfactorily.

Accurate clinical observation, guided by the ascertained facts of electro-physiology, will prove the fountain head of future progress in electro-therapeutics, as it has been the foundation of our present knowledge, and it is to be hoped that, as the number of honest workers in this field increases year by year, we may ere long look for a solution of the difficulties which still invest some parts of the subject.

2. It is frequently not had recourse to, till all other means have been tried and found wanting, and accordingly the electric treatment is commenced under the most disadvantageous conditions, and medical men form their opinion of it after dilettanti trials, by which blame is cast upon the means when it is the method that is at fault.

3. Indiscriminate use in unsuitable cases.

4. The incomplete and inaccurate mode in which the notes of cases are recorded, so that they are nearly useless for future comparison or reference.

5. Its application too often falls into the hands of ignorant or designing persons, who possess the instruments without the knowledge of how to utilize them with precision.

6. The misrepresentations of early writers, whose marvellous relations obscured the grains of truth that lay beneath their exaggerated stories.

7. The vain pretensions of many of its later advocates, and since it cannot accomplish all that its boasting supporters have asserted, it is, in spite of its powers for good, in danger of relapsing into the hands of charlatans.

In urging these considerations, the author would not be thought to recommend electricity in the spirit of a specialist as an infallible cure, or to claim for it extraordinary sanitary powers. Even in apparently suitable cases it will sometimes disappoint our expectations, and this fate it only shares in common with many of our most trusted resources, such as opium or belladonna.

The cases Dr. Smith details are grouped into the following classes: 1st, Facial Palsy; 2d, Paralysis from the poison of lead; 3d, Paralysis from local injury or pressure, whether it be on the nerve or directly upon the muscle; and 4th, Rheumatic Paralysis of the limbs.

"*Facial Paralysis.*—It will be understood that electricity is not indicated in all cases of palsy of the facial muscles, and can only be useless, if not mischievous, in severe traumatic cases.

"Electricity is likewise contraindicated when the paralysis is due to tumors in the cranial cavity, or in the parotid region involving the seventh nerve, or to disease of the temporal bone.

"In almost all cases of rheumatic facial paralysis the electro-muscular contractility, at least after some time, is below par on the paralyzed side, or may even be abolished altogether; and this is a point of capital importance, for in doubtful cases it will essentially aid us in diagnosing an excentric facial palsy from one of central origin. In the latter case the muscles respond normally to the electric stimulus, whether faradic or galvanic; and as this form is usually

dependent on hemorrhage having taken place, we see how a wrong diagnosis might occasion a serious mistake as to treatment.

"The prognosis in rheumatic facial paralysis is generally good, and is guided mainly by reference to the suddenness with which the affection has set in, and its duration, the age of the patient, and the electric excitability of the muscles; for in proportion as this property is preserved will the case be amenable to treatment. Particular attention should be paid to the latter condition in the progress of the case, because if the muscles show little or no signs of returning excitability we may fear that the disease will prove very stubborn, if not incurable.

"In tolerably recent, or even in old cases, though the reaction towards the faradic current is diminished or lost, the reaction towards galvanic stimulation may be heightened (Benedikt).

"While admitting that the use of an interrupted *galvanic current* (from a constant battery), *i.e.* galvanization, is necessary in some cases where faradization fails to elicit contractions in the paralyzed muscles, in the majority of cases the most suitable form of electricity is the primary current (*i.e.* the current from the inner or thicker and shorter spiral of an induction machine) applied locally, by means of pointed conductors tipped with moist leather, by direct or indirect faradization. The secondary current (*i.e.* the current from the outer or finer and longer spiral) causes much more pain on account of the greater intensity of the current, and the skin of the face, especially in the middle line, is acutely sensible to electric stimulation. Sometimes only a certain number of the muscles are engaged, and even in the return to their normal state they recover with different degrees of rapidity, and hence we see the importance of directing the faradic treatment to the individual muscles. Stimulation of the muscles which have regained their proper contractility should be avoided, lest any tendency to subsequent contraction should be fostered, and as a rule, the sittings should be short, and the use of strong currents dispensed with.

"Facial paralysis illustrates well that local palsies, not dependent on central causes or on direct interruption of nervous continuity, are commonly amenable to electricity.

"*Paralysis from Lead Poisoning.*—The cause in these cases is usually sufficiently manifest, but as the patient may not be aware of the channel by which lead has entered the system, in alf cases of local paralysis of the limbs, with diminished excitability of the muscles, strict investigation should be made as to the possibility of the unsuspected presence of lead, *e.g.* tailors may be contaminated by holding between their teeth the measuring tape, which has been coated with an enamel of white lead; silk thread is occasionally adulterated with sulphide of lead (produced by steeping the thread in acetate of lead, and then exposing it to sulphuretted hydrogen), and persons have been poisoned by using flour that had been ground by millstones in which some hollows were filled up with lead.

"Since the larger muscles on the forearm are those chiefly impaired in function, faradization is best directed to the muscles by moist sponge electrodes, which cover some extent of surface, but it is to be remembered that too large a sponge offers very considerable resistance to the passage of the current. When it is desirable to act on particular muscles or on small surfaces, such as the thenar and hypothenar prominences, the small conical electrodes should be employed to insure the proper localization of the current; and in some cases, where the usual method of faradization was insufficient to evoke muscular contractions, I have resorted to electro-puncture with succes. This latter method is, of course, far more painful, and requires the intensity of the current to be cautiously adjusted.

"*Paralysis from Local Injury.*—Traumatic paralysis, or that in which the nerves are functionally separated from the nervous centres, depends either on complete solution of the nerve-continuity or on temporary compression of the nerve interfering with its capacity of conducting nerve-force. The former class of cases, which is best clinically illustrated in the paresis sometimes following resection operations, demands a long time, probably at least six months, before any electrical treatment is admissible, and even when anatomical continuity has

been re-established, the restitution of functional activity is a matter of weeks or months' patient treatment.

"The latter class, to which my cases belong, not unfrequently arises from such causes as pressure on nerves from luxations, from the too tight application of bandages, or from the weight of the body resting on the nerve during sleep. Spontaneous recovery in these cases is often very tedious, and but little reliance is to be placed on the use of blisters or stimulating local applications, while the timely use of electricity will in most cases be rewarded by a speedy restoration to health.

"The electro-sensibility and excitability are more or less impaired according to the degree of nerve-lesion, and by ascertaining whether electric reaction is obtained when we place one of the electrodes *above* the point of injury, we can diagnose whether the paralysis is due to the inhibitory action of pressure on the nerve or to destruction of the axis-cylinder of the nerve. In the former case, reaction to the electric stimulus is still exhibited, and we can, therefore, at once begin our treatment. In the latter case it is abolished, and time must be allowed for the regeneration of the injured tissue.

"The treatment most generally applicable is a rapidly interrupted primary or secondary current locally applied.

"*Rheumatic Paralysis.*—Without entering upon the debateable ground of the pathology of these affections I will limit the term rheumatic paralysis to those cases in which the palsy appeared to follow on exposure to cold or damp. Such an affection is not an unusual sequela of sciatica, and whether connected with this disease or not, is prone to engage the lower extremities, and in the upper extremities the radial nerve particularly.

In conclusion, the general principles of muscular faradization, Dr. Smith writes, may thus be summed up:—

1. The current should be directed *locally* to the diseased part.

2. The not obtaining visible contractions at once does not warrant us in neglecting to proceed with the electric treatment.

3. *Indirect* faradization (*i.e.* where one electrode is placed over the trunk of the nerve) is generally preferable to *direct* faradization (*i.e.* where both poles are placed upon the muscle.)

4. The use of painful currents is to be discountenanced, and in no case should a feeling of fatigue be induced in the muscles.

5. The difference in the effect of the same electrical stimulus on different muscles is not due to any inherent variations in their electrical sensibility, but simply to physical and anatomical considerations, such as the thickness of the skin and subcutaneous tissues, and the copiousness of the motor-nerve supply of the muscles.

6. In order to lessen the resistance of the epidermis as much as possible, the skin underneath the electrodes should be kept thoroughly moist with salt water, and since *liquids* conduct better when warm than when cold, tepid water should be preferred.

7. To produce contraction of *individual* muscles the small pointed electrode should be connected with the cathode or negative pole of the apparatus, and be placed *firmly* on the skin at the "motor points," or "points of election" (*i.e.* the points of entrance of the motor-nerves into the muscles.

Art. 22.—*On Neurosis from Moral Shock.*

By Dr. de Berdt Hovell.

(*London Hospital Reports*, vol. iv.; and *British and Foreign Med.-Chir. Review*, July.)

The object of this paper appears to be to show that many ailments popularly considered fanciful are really due to some derangements of the nervous system, which, although not exhibiting any objective signs, are productive of great suffering to the patient; and the author argues moreover, that many instances of what is called irritability of temper are due to internal mental causes, which

ought to be the object of sympathy rather than of reproach. Dr. Hovell also thinks that, although the female sex is supposed to be more liable than the male to nervous or so-called hysterical disorders, yet that all are equally liable to the maladies which are comprised under that category.

ART. 23.—*Lateral Deviation of the Eyes in Cases of Hemiplegia.*

By Dr. HUGHLINGS JACKSON, F.R.C.P.

(*The Lancet*, November 13.)

Deviation of both eyes from the side of the body paralyzed is a symptom which has been remarked in recent cases of hemiplegia by several observers—Gull, Vulpian, Prévost, Humphry, Lockhart Clarke, Hutchinson, Broadbent, Russell Reynolds, and Hughlings Jackson. This curious symptom occurs occasionally with extensive cerebral hemorrhage, whether this be on the surface, or within the substance of the cerebral hemisphere. Dr. Hughlings Jackson has observed it in two cases of hemiplegia presumably the result of embolism, but in neither case was an autopsy obtained. Sometimes the head is turned in the same direction as the two eyes. It may last a few days or a few hours, but invariably passes off before other parts of the paralyzed regions recover. It must be carefully observed, too, that when there is continuous rigidity along with, or perhaps we should say instead of, hemiplegia, the eyes and head may turn to the side of the body affected by such rigidity or spasm; and if there be *occasional* spasm over and above the continued rigidity, the eyes and head turn still further in that direction. These two systems, the deviation of the head and of the two eyes, are of great physiological interest. M. Prévost thinks they imply rudimentary "rotation." They are of great value, also, in helping us to complete the parallel there seems to be betwixt hemiplegia from destruction of the corpus striatum, and hemispasm and hemichorea from instability of the cerebral region of which the corpus striatum forms part. Although the movement of turning the eyes to one side seems to be the only ocular movement lost when the corpus striatum is destroyed, the complementary study of hemispasm shows that other, probably all ocular movements are represented in the corpus striatum. The ocular movement lost in hemiplegia is the one which is most largely represented of these movements. It suffers most in hemiplegia, just as the arm suffers more than the leg. When, however, a convulsion affects first one side of the body and then the other, we see two lateral deviations, and betwixt these, as the spasm is passing from one side of the body to the other, several conjugate deviations, showing discharge of processes for movements other than lateral of the two eyes. In hemiplegia, as we usually see it, there are no ocular symptoms. It is only when the damage to the brain is sudden and extensive that the deviation of the head and two eyes is observed. But a careful study of the phenomena of hemispasm shows, Dr. Hughlings Jackson thinks, that the cerebral hemisphere contains processes for movements of the unilateral, the alternate, and the bilateral movements of the whole body.

ART. 24.—*On the Nature and Co-ordination of Hysterical Phenomena.*

By Dr. CHAIRON.

(*Gazette Hebdomadaire*, No. 37.)

1. Whenever compression or inflammation of one or both ovaries occurs in a young woman or a girl, there is nearly always sympathetic paralysis of the reflex movement of the epiglottis and of all the organs constituting the pharynx.

2. Every time these two phenomena are found united in the same person there is the commencement of an affection designated by Dr. Chairon, hysterical cachexia.

3. An attack of hysteria is but the consequences of this reflex paralysis. The epiglottis is depressed over the superior orifice of the larynx and cannot be ele-

vated, hence result the attack, the feeling of suffocation, the convulsive movements of the limbs, and the spasms, which constitute the hysterical crisis.

4. The asphyxia which proceeds from repeated crises necessarily leads to a perversion of vitality, and consequently, sensual perversions and anæsthesia may be observed in nearly all hysterical subjects.

5. The treatment should therefore be applied directly to the functional disorders of the ovaries. It ought, above all, to be local in order to determine resolution of the ovaritis, the chief if not the unique cause of all the symptoms.

ART. 25.—*Death by Hemorrhage from Cerebral Tumors.*

Under the care of Dr. HUGHLINGS JACKSON, at the London Hospital.

(*The Lancet*, October 23.)

The modes of death from cerebral tumors are very various. One patient suffers from the tumor slowly, one nervous symptom following another; another dies in what is called brain fever; a third is suddenly killed by hemorrhage from the tumor. Again some patients die without any symptoms referable to the head, and a tumor is found post mortem. Death by hemorrhage deserves careful recognition. If we have a good history these cases give us little trouble in diagnosis.

A boy aged nine, was under Dr. Hughlings Jackson's care at the London Hospital, for paralysis of the third nerve on one side, and hemiplegia on the other. These symptoms had come on slowly with headache: and there was a double optic neuritis. He died during the night of effusion of blood from a tumour of the crus cerebri, which caused the paralytic symptoms. The palsy of the third nerve on one side, and of the arm and leg on the other, pointed to disease of the crus cerebri. The gradual onset of the paralysis, and its complication with double optic neuritis, made it certain that the disease was of some *coarse* kind. The age of the patient rendered it most probable that this coarse disease was tumor. His sudden death led to the inference of hemorrhage from tumor.

The following case might easily have given trouble in diagnosis had not the patient's previous history been known. A man twenty-three years of age, under the care of Dr. Ramskill, had convulsive attacks; he suffered intense pain in his head, and there was double optic neuritis. It was almost certain from these symptoms that there was intracranial tumor. He was doing very well, being about the ward. He had a good appetite, and was able to read, when one night he was seized with a convulsion, became very deeply comatose, and died in two or three hours. Dr. Sutton found at the autopsy a gliomatous tumor of the fore part of the left anterior cerebral lobe, with recent effusion of blood to the extent of several ounces.

Had this man been brought to the hospital under like circumstances to those of the patient whose case is next related, the diagnosis would have been impossible, unless, perhaps, the ophthalmoscope had been used. If we find optic neuritis in a young, healthily-built patient, who has become comatose after a convulsion, we should, Dr. Hughlings Jackson thinks, be warranted in diagnosing tumor, but we could not say there was hemorrhage from that tumor. It is well known that patients, the subjects of organic disease of many kinds, probably of any kind affecting one cerebral hemisphere, are liable to coma after attacks of simpler convulsions—*i. e.*, convulsive attacks without any effusion of blood.

But if the patient with optic neuritis were *very deeply* comatose, especially if he were so after but one sudden convulsion; if the fit was not known to have begun by a deliberate "aura" in the face, arm, or leg, and especially if the patient had had fits so beginning before; if there were no discoverable hemiplegia, we should fear hemorrhage from a tumor, and we should believe the patient would die. But we have not always such helps. The diagnosis is not always ready made. In the following case the patient was not young, there was no known convulsion, and there were no changes in the optic disks, and the history Mr. Leach supplied was not obtained until after the autopsy. It is needless to

say that the diagnosis of hemorrhage from cerebral tumor was in this case impossible. It has no less value on that account.

A man fifty-six years of age was discharged on July 1st from the *Dreadnought* for a simple infraction of the rules. The only symptom the man then had was pain in the head. He was brought, on July 10th, in a comatose state, to the London Hospital. He died there that night, at 1.30 A.M. All the police knew was that the poor fellow had been picked up in the street the day before, and taken to his lodgings, when he was supposed to be tipsy. As he did not get up next morning, he was looked after at midday. At the autopsy a vascular tumor was found in the posterior lobe of the left hemisphere, close upon the middle cornu, and in the descending cornu. In the lateral ventricle was an effusion of blood to the extent of several ounces, which had presumably come from the tumor, as no part of the brain was broken up except the wall of the middle cornu near the tumor.

Art. 26.—*On Sunstroke.*

By Gouverneur M. Smith, M.D., Physician to the New York Hospital, N. Y.

(*The Medical Record*, July 15.)

In formerly studying the etiology of sunstroke, Dr. Smith was led to conclude that heat was not the sole cause of this malady, and inferred so for the following reasons: A hot *dry* atmosphere, it had been contended, might to a certain extent be resisted, for it allows free evaporation of moisture from the nostrils and air passages as well as from the skin, and the body is thereby cooled. If the *dew point*, on the contrary, is *high*, very little evaporation from these surfaces can take place, and the body more quickly becomes overheated. A fall or rise in the animal temperature of a few degrees is prejudicial to life.

In 1853, about 60 cases of insolation were treated in the New York Hospital, and an admirable paper relating to them was published in the *New York Journal of Medicine* by Dr. H. D. Swift, Resident Physician, now deceased. During that season the dew point was very high, and quite a number of persons were prostrated in a laundry and sugar refinery, where the air was additionally surcharged with aqueous vapor, and it, therefore, seemed probable that two meteorological influences—viz., atmospheric heat and atmospheric moisture, were active agents in the causation.

In speaking of the *treatment* of sunstroke, Dr. Smith says the milder form, or that of simple syncope, is to be treated like cases of faintness; the graver form of syncope, or that of sudden and profound collapse, requires the immediate exhibition of restoratives. The nervous system has been overwhelmed, and vital action has almost ceased. The means suited to relieve such a condition are obvious.

As the patients are insensible and cannot swallow cooling drinks, we should, writes Dr. Smith, therefore apply cold to the head, or, what is better, to the arms, and further, even to the neck and chest, and thus expose a larger surface in which the blood can be tempered.

If the case is an extreme one, and the temperature is very high, it may be well to strip off all the clothing and sponge the entire body with cold water, or to use the sudden cold douche; and if the means are insufficient to cool the patient and to rouse him, it may be necessary to apply ice to the head and axillæ and to rub the trunk and extremities with the same material.

The use of ice in such cases was introduced into the New York Hospital in in 1857, by Dr. B. Darrach, at that time Resident Physician. In the *American Journal of the Medical Sciences* for January, 1859, he published a report of four cases treated in this manner; three recovered and one died.

It should constantly be borne in mind that cold is a most powerful remedy. These patients have a tendency to collapse, and if intense cold is unnecessarily employed, it may hasten such an unfortunate condition. The degree of the cooling process should, therefore, be suited to the gravity and condition of the

patient. Resort is not to be had to the ice frictions until it is found that cool sponging or the douche have failed to reduce the temperature and to revive to partial consciousness.

Some patients come into our hands while in a state of collapse, being cadaverous in color and temperature. It would obviously be improper to employ such treatment in these cases; they have passed the stage in which refrigerant means are indicated, and now require artificial heat, sinapisms, warm frictions, and stimulating enemata to restore them.

In many cases in which the cooling process is applied, we find that the temperature of the body has diminished, the respirations become more natural, the pulse less frequent, and that consciousness has returned. This favorable condition may occur in a few moments or may not be reached for several hours, during which time, however, the harsher method of treatment is not to be continually applied, but the gentler partial applications.

In some instances the temperature falls, but there is imperfect consciousness and delirium—such patients are to be carefully dried, placed comfortably in bed, and stimulating enemata exhibited, while the head can be kept cool if extraordinarily heated. As the lungs are generally early congested, it is desirable to place sinapisms on the extremities and chest, or upon the latter dry cups may be employed. By thus favoring the peripheric circulation we lessen the liabilities to pulmonary and to other centric engorgements.

Dr. Beatson, surgeon in the India service, has encountered sunstroke among the troops under his charge, and gives the following concise directions in reference to the immediate treatment: "Unfasten as quickly as possible the man's dress and accoutrements, to expose the neck and chest, get him under the shade of a bush, raise his head a little, and commence the affusion of cold water from a sheepskin bag, continuing the affusion at intervals over the head, chest and epigastrium, until consciousness and the power of swallowing return. When this takes place the affusion may be stopped and a stimulant mixture given occasionally in small doses."

In regard to the use of stimulants, the author remarks that the same caution must be taken in prescribing them as in ordinary cold applications. As soon as the patient can swallow, water can be allowed. If the pulse is frequent and feeble, stimulants are to be given, regulating the quantity by the effect produced. In administering the alcoholic and diffusible restoratives, we should be governed by the force and frequency of the pulse. Their inconsiderate exhibition will prove as injurious as their judicious employment will prove salutary.

Patients, on being discharged, should be advised to avoid as far as possible physical and mental labor, and to avoid exposure to the sun for some days after their convalescence, and should be cautioned to give heed to these points for some time after their health has been restored. Inattention to these precautions may induce morbid nervous phenomena, from which relief may never be obtained.

With regard to the *prevention* of sunstroke, Dr. Smith writes, during extraordinary warm weather it is especially desirable to avoid all enervating influences.

As diaphoresis is generally profuse in warm weather, so there is a corresponding thirst. It seems proper to assuage such natural craving by cool water in suitable quantities. The excessive use of cold or iced water has been condemned, and has been regarded by some as a cause of sunstroke; the system, however, should not be allowed to suffer for want of water, for abstemiousness would induce the disease. Water is to be taken that it may perform its ordinary office, in this instance, particularly, that it may moderately temper the blood and be evaporated from the nostrils, air-passages, and skin, and thus gradually cool the body. It does not, however, seem desirable to induce sudden shocks of the system by frequently drinking very cold beverages in large quantities. There may possibly be febrile reactions in the system after the chills induced by such draughts.

Dr. McDowall, Assist. Surg. of the Bombay Army, in writing in 1865, on the color of clothing as influencing the temperature, health, and comfort of the wearer, has given his personal experience. He says: "I well remember that

when encamped on the shores of the Bosphorus, in Turkey, a little incident occurred which vividly impressed this physical fact on my memory and shoulders. The forenoon being bright and inviting, we (some other officers and myself) determined, Leander-like, to lave our limbs in the classic waters of the East, though not precisely at the same spot he patronized. The walk was pretty long and hot. We one by one took our coats off and carried them on our arms, both on going and coming from the bath. I wore a cherry-colored flannel shirt, and although all our shoulders were more or less burnt by exposure while in the water I was literally scorched, and for some days suffered greatly from the slightest movement or friction of my coat. We all suffered in *exact proportion to the depth of shade of our flannel.* Now, in the jungle, in the hottest weather, and in the sun, I have often ridden, and do ride still, both for experiment and comfort, in my shirt sleeves; but that shirt is *white.* Any other color requires a proportioned thickness—nay, even padding, according to some."

No less attention should be paid to the covering of the head. Hats should be made of light-colored straw, or felt, and the latter should allow of free ventilation. Assist. Surg. A. A. Woodhull, U. S. A., in his report to the Surgeon-General, in April, 1868, upon the uniform and clothing of our soldiers, in referring to this subject has said: "But, whatever covering is worn, it must be light in color, and be raised from the crown, to save the soldier from the disastrous effects of direct solar heat and confined hot air."

(B) CONCERNING THE RESPIRATORY SYSTEM.

ART. 27.—*The Treatment of Catarrh and Bronchitis.*

By GEORGE JOHNSON, M.D., F.R.C.P., Professor of Medicine in King's College; Physician to King's College Hospital.

(*British Medical Journal*, October 23.)

The exciting cause of a catarrh, in the great majority of cases, is a chill or some unknown atmospheric influence, which tends to suppress the action of the skin; and the most successful plan of treatment consists in the employment of means for restoring the free action of the skin. The popular domestic treatment consists in the use of a hot foot-bath at bed-time, a fire in the bed-room, a warm bed, and some hot drink taken after getting into bed, the diaphoretic action being assisted by an extra amount of bed-clothes. Complete immersion in a warm bath is more efficacious than a foot-bath; but the free action of the skin is much more certainly obtained by the influence of hot air—most surely and profusely, perhaps, by the Turkish bath. The Turkish bath, however, is not always to be had, and, even when available, its use in the treatment of catarrh is attended with some inconvenience. In particular, there is the risk of a too speedy check to the perspiration after the patient leaves the bath. On the whole, the plan which combines in the greatest degree efficiency with universal applicability consists in the use of a simple hot-air bath, which the patient can have in his own bed-room. All that is required is a spirit-lamp with a sufficiently large wick. Such lamps are made of tin, and sold by most surgical instrument makers.

The lamp should hold sufficient spirit to burn for half-an-hour. The patient sits undressed in a chair with the lamp between his feet, rather than under the chair. An attendant then takes two or three blankets and folds them round the patient from his neck to the floor, so as to inclose him and the lamp, the hot air from which passes freely round his body. In from a quarter to half-an-hour there is usually a free perspiration, which may be kept up for a time by getting into bed between hot blankets. Dr. Johnson has himself gone into a hot-air bath suffering from headache, pain in the limbs, and other indications of a severe incipient catarrh, and in the course of half-an-hour has been entirely and permanently freed from these symptoms by the action of the bath.

Another simple and efficient mode of exciting the action of the skin consists

in wrapping the undressed patient in a sheet wrung out of warm water, then, over this, folding two or three blankets. The patient may remain thus "packed" for an hour or two, until free perspiration has been excited.

The hot-air bath and the wet packing are very useful in the treatment of many forms of disease. Dr. Johnson constantly employs both in the treatment of renal disease; and not long since he believes that by the wet packing he saved the life of a lady, in whom very alarming symptoms were associated with the imperfect outcoming of the rash of scarlatina.

In the treatment of catarrh, the sweating plan of treatment, to be successful in cutting short the disease, must be adopted early—within a few hours from the commencement of the symptoms.

Another mode of treating catarrh, which is very successful with patients who are tolerant of opium, consists in giving a dose of opium, or morphia, at bed-time. Within half-an-hour after the opiate is taken, it frequently happens that the unpleasant coryza, and every other symptom of catarrh, have passed away. If the patient can avoid exposure on the following day the cure may be complete, and there is no need to repeat the dose.

It is probable that the good effect of the opiate is partly due to its diaphoretic action, which may be increased by combining it with ipecacuanha; but, besides its action upon the skin, there must be some direct influence on the nerves and vessels of the inflamed mucous membrane to explain the speedy relief from discomfort which follows the opiate dose. The opiate treatment of catarrh is not so generally applicable as the sweating plan, for the reason that many persons are intolerant of opium, or they cannot take it without suffering from headache, nausea, and other distressing symptoms, which render it an undesirable remedy for them. In any case the opiate treatment, like the diaphoretic method, is more successful in proportion as it is resorted to early in the attack.

In some persons, repeated doses of ammonia have the effect of lessening the coryza, and other distressing catarrhal symptoms. Five grains of sesquicarbonate of ammonia, or a drachm of the aromatic spirit, may be taken in water every three hours. A single dose of ammonia at bed-time is an efficient and useful diaphoretic, its action being aided by external warmth. Some catarrhal patients experience great relief from an occasional dose of spirit of camphor. The usual dose is from ten to thirty drops in a wine-glass of water. In ordinary catarrh, as a rule, no change of diet is required. A catarrh which has gone on unchecked for a few days is sometimes much mitigated by a generous diet and an extra glass of wine.

Those who are especially liable to catarrh should be careful to keep their feet warm and dry; and they should be warmly clothed, wearing woollen next the skin. They should avoid excessive wrapping up; since this, with even gentle exercise, tends to overheat the body, and so to increase the risk of a subsequent chill. The practice of wearing a hare-skin, wash-leather, or thick folds of flannel over the chest, is to be condemned as at once filthy and unwholesome.

It may be well to remind catarrhal subjects that the nose is a natural respirator, so that, in passing from a hot room into the open air, if the mouth be kept closed, the air, in its passage through the nostrils, has its temperature raised before it enters the chest.

There is reason to belive that the daily use of a cold sponge bath, or a shower bath, has a wholesome hardening influence upon those who adopt it, and that it renders them less liable to attacks of catarrh.

Treatment of Acute Bronchitis.—Acute bronchitis is an exaggerated catarrh; the two diseases are essentially the same, and they require the same principle of treatment, only modified according to the character of the symptoms.

In the early stage of acute bronchitis, when the mucous membrane is dry and swollen, the hot-air bath or the wet packing may be employed once or oftener with advantage. Another very useful remedy in this stage is tartar emetic, in doses of one-sixth of a grain, combined with liquor ammoniæ acetatis. This mixture exerts a diaphoretic action both upon the skin, and the mucous membrane of the air-passages; thus it brings on the stage of secretion, and with this a mitigation of the vascular engorgement. The patient should re-

main in bed. and the temperature of the room should be maintained at from 60 deg. to 65 deg., the air being kept moist by steam from the spout of a kettle, or a special boiler on the fire. The inhalation of steam, repeated several times in the course of the day, is often very soothing and beneficial. Hot fomentations may be applied to the front and back of the chest by means of spongiopiline, or flannels covered with mackintosh. A mild mustard poultice to the front of the chest is a good remedy for a sense of tightness and dyspnœa.

When dyspnœa, with a feeling of tightness and oppression at the chest, is urgent and distressing, the application of a few leeches to the chest, or a moderate abstraction of blood by cupping, often affords prompt. decisive, and permanent relief. Venesection is very rarely required; though, in the case of a plethoric subject suddenly seized with general capillary bronchitis, and threatened with death from apnœa, venesection may prove a life-saving remedy. Milk and beef-tea form the most suitable diet during this stage of the disease. Stimulants and opiates are to be avoided, as a rule, on account of their tendency to increase the congestion and dryness of the inflamed mucous membrane. In the second stage, when a free secretion has been established, antimony and acetate of ammonia are to be discontinued. At this period, a combination of sesquicarbonate of ammonia, with spirit of chloroform, is useful as a stimulating expectorant and antispasmodic. Brandy or wine in moderate quantities may now be required to sustain the strength. When, in the advanced stages, there is a profuse purulent secretion, with copious perspirations, the ammonia mixture may be replaced by one, each dose of which contains a grain of sulphate of quinine, two grains of sulphate of zinc, and twenty minims of aromatic sulphuric acid. This combination often checks very rapidly the excessive secretion from the bronchial mucous membrane. The stimulating expectorants are sometimes useful at this stage of the disease—senega, squills, ammoniacum, and the compound tincture of benzoin. If, as sometimes happens, the stimulating expectorants suddenly check secretion, tighten the breath, and increase dyspnœa, their employment must at once be discontinued. When the secretions accumulate and threaten suffocation, the patient being blue, and cold, and drowsy, and cough nearly or quite ceasing, an emetic of sulphate of zinc is often wonderfully efficacious in clearing the air-passages.

Here Dr. Johnson gives an especial warning with regard to opium. A patient who has been sitting up in bed, laboring for breath day and night, naturally craves for sleep and begs for an opiate. Now, a small dose of opium given in such case, has caused fatal narcotism in numberless instances. The opiate stops the cough, and, of course, the expectoration; the patient sleeps more and more heavily; meanwhile the secretion accumulates, and causes fatal apnœa. Never, therefore, give an opiate to a bronchitic patient who has the slightest blueness of the lips. When the expectoration is quite free, and the lips are florid, you may sometimes venture to give a small opiate with antimony or ipecacuanha, or you may give a drachm of the compound tincture of camphor, or twenty minims of chlorodyne. The good effects of a few hours' sleep thus procured are sometimes very manifest.

When bronchitis is associated with blood-contamination consequent on Bright's disease, diaphoretics, purgatives, and dry cupping over the loins, are amongst the most useful remedies.

The treatment of *chronic bronchitis* is essentially the same as that of the acute form of the disease. They merge into each other by imperceptible degrees. An acute attack may subside into a chronic condition, and exposure to cold will quickly convert chronic into acute bronchitis.

Amongst other remedies in the chronic stage, the inhalation of the vapor of creasote, or oil of turpentine, by means of a Nelson's inhaler, is often beneficial. These vapors facilitate expectoration at the same time that they tend to check the profuse purulent secretion. The abundant secretion may sometimes be checked by inhaling, in the form of spray, a solution of tannic acid.

In treating diseases of the air-passages by the inhalation of vapors, it should be borne in mind that these vapors rapidly pass beyond the lungs; they are quickly absorbed and enter the circulation, causing, in some instances, head ache and other discomforts.

Change of air, and, in particular, a residence in a mild, dry, and equable climate, are amongst the most important remedial and preventive measures.

ART. 28.—*On the Influence of Pleurisy in the Production of Phthisis.* By ANDREW CLARK, M.D.

(*The Lancet*, October 23.)

At a meeting of the Medical Society of London, held October 18th, Dr. Andrew Clark read a paper "On the Influence of Pleurisy in the Production of Phthisis." He described it as a mere statement of results of inquiries into the relation of the two diseases. By phthisis he meant any disease in which there was ulceration or suppurative destruction, more or less circumscribed, of portions of the lung; hence there was "pneumonic," "tuberculous," "fibroid" phthisis, &c. By pleurisy he meant cases in which a large amount of lymph was exuded, rather than serosity, and in which, after the acute stage is passed, there was just enough local inflammation left behind to prevent repair. If asked what relation there was between the two diseases, the general answer would be, None: and he referred to the opinions of Baillie and Laennec, who denied the connection, and of Louis, in which the most complete denial was to be found. Louis said that dry pleurisies were caused by tubercle; but he disbelieved the converse, when he must have seen the cases in which there was dry pleurisy of the base of the lung, without tubercle. Baglivi contended for the opposite view, and he and others belonged to what may be termed the "inflammatory" party, which conceded all to inflammation. This party was defeated by what may be termed the "constitutionalists," whose doctrine, as typified by Louis's opinions, were generally accepted, and have been handed down to recent times. In 1848, however, Addison made his assault on them, and showed that tubercular lungs might be the ultimate result of pneumonia—a state of things which he designated as pneumonic phthisis. Addison, indeed, laid the foundation-stone of that reform in the nomenclature of lung disease which, if not accomplished, is at least near at hand. The author had traced out this connection, and in 1858 he began to keep an eye upon all his cases of pleurisy, having them under constant observation for years after the attack, and the proportion issuing in basic lung disease of a phthisical character is large enough to take them out of the category of coincidences. There were two modes of evolution of phthisis in these cases: By an uniform invasion and hardening of the lung by fibroid tissue. This was not necessarily followed by the breaking up of the lung; it was the cirrhosis and interstitial pneumonia of authors. The other was an irregular distribution of fibroid matter, which alters the local circulation, so as to induce tubercular deposit. [Drawings were handed round the room as illustrations of these facts, and Dr. Clark produced a young woman who had fibroid phthisis consequent on pleurisy.] The conditions most likely to be followed by phthisis were those in which a large amount of lymph was effused, and where local irritation persisted after the acute attack subsided. When the fibroid deposits begin to soften, tubercle appears. The signs were generally those of condensation, with retraction; the symptoms, ineffectual cough, ending in vomiting, difficult expectoration, with grayish sputa, presently fetid; the treatment, local blistering, iodine inhalations, and iodide of potassium and alkalies internally. The moral of the history of these cases is mainly this: When a patient comes under observation with pleurisy, to vigorously treat him till all appearance of local disease has gone, and not to lose sight of him till then.

Art. 29.—*Prescription for Whooping Cough.*

By Valentine Mott, M. D.

(*Medical Record*, March 1st.)

The late Dr. Valentine Mott's prescription for whooping cough was as follows:—

℞.—Hydrocyanic acid gtt. vj.
Ext. belladonna gr. ij.
Paregoric f.℥iij.
Syrup balsam of Tolu f.℥j.
Aqua f.℥iij.—M.
S.—One teaspoonful four times daily.

Art. 30.—*On the Practical and Pathological Bearings of Recent Researches as to the Artificial Production of Tubercle.*[1]

By J. Burdon Sanderson, M. D., F.R.S.

(*British Medical Journal*, September 4.)

The purpose of the paper was to bring the facts relating to artificial tuberculosis in animals into harmony with the results of clinical experience and pathological observation in man. In the guinea-pig, tuberculosis may be produced either traumatically or (with much greater certainty) by the insertion of an infective material into the living body. Dr. Sanderson had found that, whereas the traumatic method is very uncertain, the disease can be communicated with absolute certainty by the introduction even of infinitesimal quantities of diseased material, taken directly from the living animal into the pleura or peritoneum by means of a syringe for hypodermic injection. When this mode of inoculation is adopted, the local results are so slight, that the operation leaves no trace whatever behind it. It is not until three weeks or a month later that the morbid effects begin to manifest themselves in the form of crops of miliary nodules disseminated in various parts of the serous surface. From the anatomical study of these nodules, Dr. Sanderson had ascertained that in many parts of the peritoneum and pleura, they do not originate as new growths, but by the hypertrophy of previously existing microscopical masses, which masses, although for the most part so small as to be indistinguishable by the naked eye, consist of the same structural elements, and have the same relation to the serous membrane and to the bloodvessels, as the "tubercles into which they are metamorphosed as a result of the irritating effect of the infective material introduced into the serous cavity. For a time these granulations constitute the only results of inoculation. Eventually, the mesenteric or bronchial glands become the seat of hyperplastic enlargement; and from them, as from foci of infection, the circulation becomes, as Dr. Sanderson believed, impregnated with the morbid material. This generalization of the disease manifests itself in all the organs contained in the thoracic and abdominal cavities—*e.g.*, in the lungs, in the form of nodules of catarrhal pneumonia, with deposits round the smallest bronchial tubes; in the liver, as deposits around the smallest bile-ducts; in the spleen as hyperplasia of the Malpighian follicles, etc. In the serous membranes, and in the choroid, the diseased product consists entirely of miliary granulations. In the liver and lungs, it consists partly of catarrhal accumulations of cells occupying alveoli or bile-ducts, but principally of the tissue to which Dr. Sanderson was in the habit of applying the adjective adenoid. By the term adenoid, the striking resemblance of the morbid structure to that of the follicles or ampullæ of the lymphatic glands is intended to

---

[1] Abstract of a paper read at the thirty-seventh annual meeting of the British Medical Association, held in Leeds, July 27th, 28th, 29th, and 30th, 1869.

be denoted. The importance of this analogy lies in the fact already mentioned, that, as regards the serous membranes, the miliary nodules are nothing more than overgrown masses of adenoid tissue, which are to be found in every guinea-pig beneath the serous epithelium. With reference to the interesting question of the relation of miliary tubercle to the lymphatic system, Dr. Sanderson denied that the epithelium of the lymphatic capillaries becomes transformed into tubercle, as is stated by Professor Klebs and Dr. Aufrecht. He has observed that, in the subperitoneal tissue covering the tendinous centre of the diaphragm, in which the structural relations of miliary tubercle of the peritoneum can often be studied with great advantage, in consequence of the transparency of the membrane, the lymphatic capillaries can be seen to be in a perfectly natural state in the immediate neighborhood of granulations. On the other hand, the veins in this situation are always surrounded with sheaths of adenoid tissue, from which sheaths (whether lymphatic or not, is not as yet decided) the granulations spring. It is suggested that the authors above quoted, in describing the growth of miliary granulations around lymphatic vessels, had really veins under examination. Dr. Sanderson then proceeded to discuss the bearing of the facts on the various doctrines which have been advanced as to the origin and nature of tubercle during the last twenty or thirty years. Our modern ideas of tubercle date from Laennec, who was enabled, by the weight of his great reputation as a great clinical observer, to enforce his own pathological ideas on this and other subjects independently of evidence. It was Laennec that first taught that phthisis and other analogous diseases are dependent on the growth of a specific product—viz., *tuberculous material* or tubercle—in the affected tissues; maintaining, in contradiction to Broussais, the impossibility of any connection between it and any form of inflammation. As soon as the microscope began to be used, a basis was sought for the dogma of specificity in the structure of the so-called tuberculous material. Lebert, the most distinguished of the early pathological microscopists, was soon able to discover that its specificity was due to a particular sort of corpuscle, called a *tubercle-corpuscle*. Since that time, tubercle-corpuscles have constantly been spoken of as characteristic of the material question. The labors of Virchow and his pupils have now dissipated much of the confusion which this imagination of Lebert's introduced into the subject. Virchow has shown that the morbid growths which occur in the organs of persons affected with tuberculous diseases are not characterized by the form or size of the corpuscles, so much as by the interstitial reticulum by which they are held together, and by the relation of the morbid growth to the connective tissue and bloodvessels of the affected part; and, further, that there is nothing in the anatomical structure of a tuberculous growth which is exclusively peculiar to itself; for tubercle, considered anatomically, is but one member of a numerous class of morbid products (called by him lymphomas), in all of which the same corpuscles and the same stroma are met with. In short, there are no peculiarities by which any given specimen of tuberculous material can be determined to be tuberculous. Its character depends, not on what it is either chemically or structurally, but on the changes it undergoes, and its relation to existing structures. Phthisis cannot at present be better defined anatomically than by saying that it consists in lobular consolidation of one or both lungs, followed by gradual disintegration of the consolidated parts. The most important question in the pathological anatomy of the disease is that of the nature of the consolidation. On this point, the author held that it is not possible to distinguish the induration of phthisis from that of chronic lobular pneumonia, so far as relates to the anatomical characters of the indurative process. Again, the same characters are met with in the lobular pneumonia which results from inoculation, as in phthisis. In either case, the induration is due partly to the thickening of the framework of the organ by the interstitial growth of adenoid tissue, partly to the choking up of the alveoli with catarrhal products. With reference to the etiology of phthisis, the author considered that the origin of tuberculous disease may generally be traced to one of two agencies;—viz., to a constitutional liability or predisposition, of the nature of which we are at present entirely ignorant; or to the influence of prolonged local irritation.

With reference to pulmonary consumption, he held that chronic bronchitis, chronic catarrhal pneumonia, and phthisis, cannot be separated from each other by definite lines; and that many cases of phthisis originate from bronchial catarrh. In accounting for the development and widely spread distribution of tuberculous disease in the body, great stress is laid on infection—*i. e.*, the fact that any chronic induration of an organ, if it last long enough unresolved, has a tendency to produce similar indurations elsewhere, not only in adjacent, but in distant organs. The way in which this happens we learn by the study of artificial tuberculosis. Its reality is exemplified in almost every case of phthisis. In conclusion, Dr. Sanderson expressed the opinion that the doctrine of specificity had exercised a sinister influence on the treatment of phthisis and the management of phthisical patients; for it had led men to forget that consumption is influenced by the ordinary causes of inflammation, not only in its origin, but in each step of its progress; and that one most important aim in treatment ought to be to counteract this influence. For this reason, he considered that the treatment of consumptive persons in hospitals for long periods was a great misapplication of the resources of philanthropy. These resources can only be rendered fully available for the purposes for which they are intended by a complete reversal of the present plan of administration. In the first place, no patient should be kept in hospital on the mere ground of his being consumptive, irrespectively of his constitutional state; and, secondly, much greater facilities ought to be given to the poor than exist at present for their immediate admission into hospital whenever suffering from acute pulmonary disease, whether primary, or supervening in the course of chronic phthisis.

Art. 31.—*Ascending and Descending Respiration.*

By J. Hawtrey Benson, M.D.

(*Dublin Quarterly Journal of Medical Science*, August; and *British and Foreign Med.-Chir. Review*, October.)

Dr. Hawtrey relates a case of cardiac affection in a female, aged nineteen, under his care at the City of Dublin Hospital. From the physical signs present he diagnosed constriction of the mitral orifice, tricuspid regurgitation, and, from a slight systolic bruit heard louder at the second left cartilage than the second right, he thought there might be disease of the pulmonary sigmoid valves. After a fortnight in hospital the patient had an attack of hemiplegia; sensation and power of motion were lost on the left side. She was semi-comatose, but capable of being roused, and then was delirious or imbecile, and articulated with difficulty. She at this time exhibited the peculiar form of respiration known as "ascending and descending." "There were intervals of perfect apnœa, and these were almost exactly equal in duration to the periods of respiration, and each lasted for an almost constant period of fifteen seconds. Thus each minute was divided into four periods—two of perfect apnœa and two of puerile respiration." Another interesting point was that it was only while the patient was allowed to remain in the semi-comatose state that this peculiar form of breathing was present. When she was roused up the breathing became almost normal; but it again assumed the ascending and descending character when she was allowed to lapse into the semi-comatose state. This condition continued for twenty-four hours; the semi-comatose state and the peculiar respiration then disappeared gradually. She lived six days afterwards. The post-mortem examination revealed great contraction of the auriculo-ventricular opening, a funnel-shaped mitral valve; absence of cordæ tendineæ; the musculi papillares appeared to be inserted directly into the funnel. Vegetations on the aortic valves; reduction of the calibre of the aorta, which took a sudden bend to the left; thickening and stiffening of the tricuspid valves; no fatty degeneration of the heart. The brain was flabby; the right corpus striatum softened, and three small extravasations of blood were buried in its substance. The author thinks that this case goes far to prove that ascending and descending respiration is in great part a nervous phenomenon, though, for its produc-

tion, it seems essential that there should be either fatty degeneration of the heart, or constricted mitral orifice, or some cause tending to produce an accumulation of red blood at the left side of the pulmonary circulation, in fulfilment of the conditions considered necessary by Dr. Little, who believes that this peculiar form of respiration is produced by a loss of balance between the efficiency of the two ventricles. In the above case the peculiar breathing was only present when the patient was allowed to remain in the semi-comatose condition. For its production, there seem to be necessary, 1. A certain diseased state of the heart, by reason of which, indirectly, the excito-motor impulse upon the nervous centres, conveyed through the pulmonary branches of the pneumogastric, is diminished. 2. A certain weakened state of those nervous centres, by reason of which the reflecto-motor impulse is diminished.

ART. 32.—*On the Physiological Rationale of Pneumonia and Bronchitis.*[1]

By JAMES NEWTON HEALE, M.D., Physician to the Winchester County Hospital.

(*The Lancet*, November 20.)

Pneumonia has always been described as inflammation of the substance of the lungs. The author ventures to doubt this conclusion, and to suggest that pneumonia may be one thing, and inflammation of the pulmonary tissue another. No doubt can be entertained that the venous blood is sent to the lungs, not because the tissue of those organs requires blood of that particular kind, but because the body at large requires arterial blood; and there seems no ground, either in probability or fact, for supposing that the lungs need for their nourishment either a proportionately large quantity of blood, or blood of a different character, than suffices to accomplish a like purpose in other organs of similar dimensions. But if the blood brought by the pulmonary artery to the lungs is not supplied for the purpose of nourishing its tissue, for what purpose is it sent there? The blood reaches the lungs, firstly, in order that it should be rendered arterial in exact proportion to the requirements of the body at large; and secondly, that a particular force, comprised in the word "vitality," should be excited in exact proportion to the degree in which the change from venous into arterial blood is accomplished.

It is abundantly clear that the quantity of blood carried to the lungs by the pulmonary artery cannot be increased or diminished by any supposed requirements of their tissue for a greater or less supply of blood. The blood so conveyed must be in strict accordance with the quantity of venous blood furnished by all the organs throughout the body taken in the aggregate, which will likewise be in precise relation with the activity of function then exercised, and will in like manner exactly tally with the degree of "vitality" which is in active exercise throughout the body at the same time. The degree in which the blood is being then arterialized furnishes the key to the whole chain of vital phenomena.

Passing to the strictly pathological consideration of the subject, are we justified in drawing the conclusion that pneumonia is identical with inflammation of the lungs?

The author thinks that a state of cirrhosis, either partial or general, fulfils much more nearly the condition of inflammation of the substance of the lungs than does that of pneumonia.

There cannot be a doubt that the lungs do frequently "become" engorged with blood brought by the pulmonary artery, and that this constitutes an early stage, and is indeed nothing else than pneumonia. Whence does that engorgement proceed? Certainly not from a refusal of the tissue of the lungs to appropriate the blood, because if a supply of blood out of all proportion to the quantity which that tissue could by any possibility apply to the purposes of its nutrition were the cause of engorgement, the lungs must at all times be in such a state, because it is impossible that the tissue of the lungs could at any time appropri-

---

[1] Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, Tuesday, November 9.

ate to its own purposes a hundredth part of the blood brought by the pulmonary artery. When the lungs become engorged it is not on account of the failure of the nutrition of those organs, but because, from some cause, the venous blood when brought to them fails to become arterialized. It is retained in the lungs, and these organs become engorged because the blood is not arterialized and transmitted onwards. Many causes are capable of producing such a result.

1. The lungs may be themselves in fault—*e. g.*, some defect in their structure may prevent the blood being brought into sufficiently close contact with the air.

2. The blood may not be arterialized because the air itself may be in fault.

3. The blood itself may be in fault—*e. g.*, pus-globules, or tuberculous matter artificially introduced, may block up some of the smaller arteries, and prevent the blood reaching the plexus of the air-cell.

4. The failure of the arterialization may result from a severance of the continuity, whereby the capillaries in the lungs may become disunited from those in the system at large, where the functional changes in correspondence with arterialization in the lungs ought to take place; the vitality which should be created by the concurrence of both being arrested, and the arterialization fails in consequence.

Numerous instances were cited of pneumonia by such circumstances as enumerated above. From the consideration of pneumonia the transition to that of bronchitis is not difficult. Inasmuch as anatomical investigation conclusively proves that the plexus of the bronchial membrane and its peculiar secretion are products of the pulmonary bloodvessels, and not, as was long supposed, of the bronchial arteries, it follows that pneumonia and bronchitis must be nearly allied; but inasmuch as the plexus of the air-cells, when the venous blood is converted into arterial, intervenes between the blood sent by the pulmonary artery and that which reaches the bronchial membrane, this circumstance creates a very notable distinction between the two, and establishes a pathological difference of great importance.

Reflection upon the anatomical peculiarities of these bloodvessels will likewise show that the blood cannot be propelled into the plexus of the bronchial membrane by the direct action of the right ventricle, since that force would be expended before the blood would reach the plexus of the bronchial membrane; and, moreover, the blood, after it has passed the air-cells, has the option, as it were, of reaching the left auricle by the veins, which carry the blood thither without traversing the plexus of the bronchial membrane. Any cause which would have the effect of retarding the blood in its transit through the left auricle would, by impeding its onward flow, increase the quantity of blood which would flow through the plexus of the bronchial membrane, and thus have a tendency to produce congestion in that membrane. Numerous pathological instances illustrative of the above were cited, and the following conclusions were drawn from them:—

1st. That an increased function in the plexus of the bronchial membrane would conduce to diminish any accidental congestion in the left auricle; a copious discharge of bronchial mucus would be calculated to reduce any such congestion by the elimination of the fluid.

2d. The increased activity of the function of the bronchial membrane, thus called into operation, would materially aid in overcoming the obstacle by bringing into play a largely increased aerating surface; in fact, the whole bronchial membrane would then become auxiliary to the air-cells, not only occasioning additional arterialization of blood, but also causing an augmented supply of vital influence as the concomitant of such arterialization, and so assist in overcoming the obstruction which caused the congestion in the auricle. In short, the membrane of the bronchial tubes is made, in such contingencies, to reinforce the action of the pulmonary capillaries, and to supplement its action in the creation of arterial blood and of vital force. The fundamental distinction, therefore, between pneumonia and bronchitis is comprised in the fact that pneumonia is an affection belonging to the blood before it has passed through the air-cells, and while it is yet wholly unarterialized; while bronchitis is an affection of the same blood operating after it has passed the air-cells, and having, at least to some extent, become arterialized; and the morbid action

peculiar to bronchitis takes place while the blood is ramifying in the bronchial mucous membrane, and after that particular blood has escaped all risk of pneumonia.

ART. 33.—*Observations on the Treatment of Pneumonia, with an Analysis of Cases Treated by the Author.*[1]

By A. T. H. WATERS, M.D., F.R.C.P., Physician to the Liverpool Northern Hospital.

(*The Lancet*, November 20.)

The paper was founded on the results of treatment in fifty-three consecutive cases of acute pneumonia treated by the author in the Liverpool Northern Hospital; and was accompanied by a tabular statement presenting the leading features of each case.

Of the age of the patients.—Under ten years, 1 case; between ten and twenty years, 7 cases; between twenty and thirty years, 25 cases; between thirty and forty years, 12 cases; between forty and fifty years, 7 cases; between fifty and sixty years, 1 case. All the patients were males except two. A large proportion of them were sailors. Many were strong, robust-looking men, whose previous health had been good, and in whom the disease had existed for a few days only before admission into the hospital.

The disease was single in 44 cases, involving from one-half to the whole of the lung; it was double in 9 cases. Of the single cases, the right lung was attacked in 20, the left in 24. Of the double cases, the left lung was most involved in 6, the right in 1. Both lungs were equally involved—viz., one-half—in two cases.

Of the treatment.—Venesection was not practised in any case. Only three cases were cupped; and only two had leeches applied. Whenever antimony was given, it was in small doses—from one-twelfth to one-fourth of a grain—except in two instances, in which it was given in doses of three-quarters of a grain and a grain. In thirty-three cases—a large majority of the whole—no antimony was given. In a large proportion of the cases some alcoholic stimulant was given early in the disease. In thirty cases alcoholic stimulants formed the main therapeutic agent; and in some of the most severe cases no other medicine was given. In six of the remaining cases stimulants were given after a few days' treatment by other means. The stimulants were given at regular intervals, frequently with food, beef-tea, or milk. In the instances marked by a very rapid pulse and great dyspnœa, brandy was given every hour, or every hour and a half. Mercury—calomel with opium—was not given in any case. In one case blue-pill was given twice a day for six days; but no soreness of the gums was produced. In no other instance was mercury given, except as a purgative in combination with some other drug. In every case nutrients were allowed freely—viz., beef-tea and milk from the commencement of treatment, and solid food as soon as the patient could take it.

Of the results.—Of the fifty-three cases, one died. In this case, after convalescence had apparently set in, and the pulse had fallen to 80, effusion into the pleura took place somewhat suddenly to a large extent, and death soon followed.

The average duration of the fifty-two cases that recovered, *from the commencement of treatment to the period of convalescence*—namely, when all active symptoms had subsided, when the pulse had fallen to a natural or nearly natural standard, and when the patient could take solid food—was $8\frac{1}{2}$ days.

The date of the commencement of the attack was clearly ascertained in 41 cases. The average duration of these *from the onset of disease to the time of convalescence*, was $11\frac{1}{4}$ days.

The average number of days during which the 52 patients remained in the hospital was $24\frac{1}{5}$ days; but of these patients, 6 were kept in for a long time in

---

[1] Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, November 9.

consequence of impaired health from other causes besides pneumonia—namely, from rheumatic fever, tubercular symptoms and gangrene of the lung, great debility, and emphysema. Excluding these 6 cases, we have, as an average of the remaining 46, 20½ days. In reference to this average it should be borne in mind that the patients were, for the most part, not discharged until they had gained sufficient strength to be able to resume work.

The results of these cases tend to prove that pneumonia is far from being a fatal malady, and that under a treatment which consists in supporting the patient, and in abstaining from depletory or depressing measures, its mortality is low. None but hospital cases have been tabulated, as these alone are available for public reference; but the author stated that he had pursued a similar line of treatment in cases met with in private practice.

In conclusion, the author referred to the general principles of treatment which he adopted. The treatment adopted is not characterized by the exhibition of large doses of any of the so-called antiphlogistic remedies. Nourishment is never withheld if the patients can take it, and powerful purgatives are not resorted to. Stimulants are frequently prescribed at an early period of the disease, and they are often mainly relied on. General bloodletting was never practised, and local bleeding only occasionally (in five of the recorded cases).

The author is of opinion that we possess no remedy which is specially and specifically curative of pneumonia. He occasionally prescribes antimony in small doses; but he thinks the cases are few in which it is useful, and that in no case should its administration be prolonged.

The propriety or impropriety of administering alcohol in pneumonia is one of the most important questions in connection with the treatment of the disease. No fixed rules can be laid down on this point. Whether stimulants are to be given or not must be decided by the general features of each case. There can be no doubt that many case of pneumonia may be conducted to a satisfactory issue without the administration of alcohol, and that there are cases in which alcohol aggravates the symptoms. At the same time there are also cases which are as decidedly benefited by it. To distinguish between these cases is sometimes difficult. When the pulse is very quick, the dyspnœa urgent, and the disease extensive, the author never hesitated to prescribe stimulants freely.

The author does not prescibe mercury—calomel with opium—in the disease. He thinks that too high a value has been placed on mercury as a remedy in the stage of hepatization, and that it possesses no special properties for promoting absorption of the effused matters. It is useful as a purgative; but if given with the view of producing salivation, it will generally be found prejudicial.

Opium is useful in relieving the pain in the side which so often occurs in pneumonia, for allaying cough and procuring sleep.

Ipecacuanha is apparently useful in some cases. The author frequently gives it with stimulants in the pneumonia of children. Carbonate of ammonia, chloric ether, and bark are also given by the author, either alone or in conjunction with alcoholic stimulants, and quinine as soon as the acute symptoms have subsided. Salines are not, as a rule, administered.

The administration of nourishment forms an important element in the treatment of pneumonia, as well as of all other acute affections. In the early stages of a severe attack there is but little desire for food; and there is a risk, if the mere feelings of the patient are alone consulted, that nourishment may be withholden too long. Beef-tea and milk may be safely allowed even in the acute stage, and as the case progresses the diet should be more liberal. In cases which require an early and free administration of alcohol, nutrients should be given liberally from the first.

The author believes that mild counter-irritation is useful in the early stages of an attack, and that, later, blisters are frequently of service. In conclusion, he observed that, in forming an opinion of the most appropriate treatment in any case of pneumonia, regard must be had to the constitutional condition of the patient, the frequency and character of the pulse, and the antecedent of the patient, rather than to the amount of lung involved or the stage which the disease has reached. It is the patient, and not simply the diseased lung, that we have to treat.

(c) CONCERNING THE CIRCULATORY SYSTEM.

ART. 34.—*Additional Notes on Unusually Rapid Action of the Heart.*

By RICHARD PAYNE COTTON, M. D., Senior Physician to the Hospital for Consumption, Brompton.

(*British Medical Journal*, July 3.)

In the *British Medical Journal* of June 1st, 1867, I related a case, illustrated by sphygmographic drawings by Dr. Sanderson, in which the pulse reached 232 per minute. It was the first of the kind which had been published. In the Journal of June 22d of the same year is a letter addressed to me by Sir Thomas Watson, Bart., in which he describes a very similar case which had fallen under his notice several years previously, and where the pulse reached 216 in the minute. Dr. James Edmunds also described a like case (Journal, June 15th, 1867). A short time afterwards, four other cases were recorded—one by Dr. J. D. Brown (Journal, July 20th, 1867); two by Dr. R. L. Bowles (Journal, July 20th, 1867); and one under the care of Dr. Broadbent at St. Mary's Hospital (Journal, August 3d, 1867).

As this closes the number of cases hitherto placed on record, and the condition is, as Sir Thomas Watson justly remarked, "a very rare form of disorder," I have thought it might be worth while to add the following case, which has lately fallen under my observation.

A few months ago I was requested by Mr. Langhorne, of 227 Brompton Road, to meet him in consultation upon a case of excessive palpitation of the heart. We found the patient—a gentleman aged about 35, and leading ordinarily a very active and anxious life—suffering with severe dyspnœa and general depression, accompanied by marked symptoms of gastric derangement and slight muscular rheumatism. It was impossible to count the pulse, the beats being far too quick, feeble; and apparently irregular; but on placing the stethoscope upon the heart, we could distinctly count 200 pulsations in the minute—each pulsation being regular and uniform, and consisting of but one sound, and that quite free from murmur. The patient stated that his palpitation and distress had come on simultaneously two days before; and that he had had several previous attacks, but of a milder character.

Remembering the treatment of my former case, I suggested the free use of stimulants, with ammonia, potassa, and digitalis; and, in the course of two days, the heart returned *suddenly* to its normal action, and at the same moment the patient to his ordinary condition—whether as a sequel or a consequence of the treatment, a *post* or a *propter*, I cannot say.

I have very recently seen the same gentleman in perfect health, his heart beating quite naturally, and not exceeding 80 in the minute. He told me, however, that, since the attack which I have described, he has had several others similar in kind, but less severe; and that on each occasion the heart returned *suddenly* to its proper action.

Of the seven cases now recorded, in four instances the excessive action of the heart terminated *abruptly* and *suddenly*, the patients having been able to tell the exact moment of its occurrence. In the remaining three cases, the same may or may not have obtained; the circumstance either having escaped observation, or not having been stated. This forms an interesting feature in the disorder, and is well worthy of notice in any similar cases which may occur.

I feel much hesitation even in suggesting an explanation of the strange phenomena exhibited in the cases I have related. In my former paper I ventured upon the supposition that they were due either to an obscure and abnormal irritating state of the blood, or to an extreme and inexplicable sensitiveness of the heart itself, or possibly to a combination of both such conditions, but having the common effect of causing the heart to contract upon its contents long before its cavities have had time to become filled to their normal extent. It remains, however, to reconcile with this, or, indeed, any other view of the matter, the

sudden return of the heart to its healthy action. I confess that I am unable to understand this; but

> "There are more things in heaven and earth
> Than are dreamt of in our philosophy."

ART. 35.—*Two Cases of Thrombosis of the Renal Vessels through Injury to the Lumbar Spine, with general Remarks on Thrombosis.*

By W. MOXON, M.D.

(*Guy's Hospital Reports*, vol. xiv.)

One of the cases here described is that of Mr. Poland, in which Dr. Moxon conducted the post-mortem examination. In Mr. Poland's case the ureter of the right kidney was torn across, but the left kidney (although there was no sign of direct violence to it) had its vessels entirely occluded. In the other case, which fell under Dr. Moxon's own notice, and which was also one of severe injury by a railway train, the kidneys were both diseased. The right was larger than the left and looked swollen, and its color was dull and opaque with a yellowish cast. All its vessels, arteries as well as veins, were obstructed by ante-mortem clots. The left kidney was affected like the right, but only in a part of its structure. The microscope showed that the inter-tubular stroma of the diseased parts of the kidneys was charged with finer or larger fat molecules. In this case, as in Mr. Poland's, there was fracture of the lumbar vertebræ. Dr. Moxon draws attention to the fact that obstruction of the renal vessels was found in two cases accompanying injury to the spinal column in the region corresponding with the position of the kidneys, and he then discusses the probable cause of the obstruction under these circumstances, but remarks that an extensive disease of the kidneys from such a cause is exceedingly rare, and even when it does occur, it is almost always as an accident in heart disease, due to embolism of the artery by fragments from ulcerating cardiac valves. In the cases mentioned in the paper the pathological condition was *thrombosis*, and not *embolism*, and Dr. Moxon draws a distinction between these two conditions, which he thinks are sometimes confounded with one another by some writers.

ART. 36.—*On Presystolic Murmur.*

By HYDE SALTER, M.D., Physician to Charing Cross Hospital.

(*The Lancet*, October 23 and 30.)

Dr. Salter gives the following points as the sum and substance of a lecture delivered at Charing Cross Hospital:—

That mitral constriction has no special immunity from murmur.

That the murmur to which it gives rise is individual and characteristic.

That it differs from all other cardiac murmurs in the time at which it occurs—immediately before the first sound of the heart.

That it is, from this circumstance, peculiarly easy to identify.

That it is a very common murmur.

That it is accompanied by thrill and associated with hæmoptysis to a degree greater than any other murmur.

That it probably remained so long unrecognized partly from being confounded with systolic murmur, and partly from mitral constrictive murmur being supposed to occur at the diastole.

Art. 37.—*On Functional Valvular Disorders of the Heart.*

By Dr. Da Costa.

(*American Journal of the Medical Sciences*, July.)

Dr. Da Costa discusses the following questions: "Are there functional cardiac murmurs occurring in persons not anæmic, and, therefore, closely simulating organic valvular troubles?" and, again, "What is the origin of such murmurs, and what means have we to prevent ourselves being deceived? 1st. Do such murmurs happen at the base?" Da Costa has met with very few instances where an aortic murmur seemed to belong to the category alluded to. In these the murmur was generated during excited action of the heart, was soft, was not propagated into the arterial system, occurred with contraction of the ventricles, was followed by a distinct second sound, and did not last. At and near the orifice of the pulmonary artery, also, murmurs are found which are not associated with organic change of the valves or in the vessel, which may be due to constriction by surrounding altered pericardial or pulmonary structure, or again be inconstant or purely functional. 2d. With regard to the auriculo-ventricular openings. As regards the tricuspid orifice, a murmur at or near the ensiform cartilage has never, in Da Costa's experience, been of this kind in a healthy heart, but such a murmur may be produced in a dilated heart without valvular disease. Such murmurs, on the contrary, are pre-eminently common at or near the apex beat in the situation of mitral murmurs. A murmur of this kind is more likely to be heard at the apex, or somewhat above the apex, than is a murmur depending on the condition of the blood; it differs from organic mitral murmur partly by the peculiarity of seat just mentioned, partly by its non-diffusion, its absence at the back of the chest, and its greater want of harshness. Dr. James Andrew, in discussing these systolic blowing sounds, lays stress on the want of intensification of the normal second sound of the pulmonary artery. Da Costa has notes of fifty cases, and can in a general way subscribe to the correctness of this opinion. In a number of cases the second aortic sound was clearer and better marked than the second sound of the pulmonary artery, but in a few cases he found the reverse. A more valuable sign, though subject to exceptions, is the not finding the murmur audible at the back or near the lower angle of the scapula. But the author thinks that the most valuable sign is the localization of the murmur, which he says is not an apex murmur strictly speaking, but occurs rather above the apex, over the body of the left ventricle. "The third interspace is the point at which it is very apt to be most marked; from there it extends faintly to the second interspace on the left side, in some cases distinctly enough to make one believe in its seat being the pulmonary artery. It may occupy the whole of the first sound, but it more commonly does not, and at the apex, this, or a portion at least of this, is almost sure to be detected. In only about the proportion of three instances out of fifty did I find that it was audible at the right side of the sternum towards the aortic cartilage, and in one of these it was only audible with a double stethoscope." Synchronous with the first sound or impulse, it is generally soft or at a low pitch. In some cases it is rendered louder and harsher by pressure; it is modified by the respiratory acts. These murmurs the author has met with in healthy looking persons without anæmia; but in many the heart's action was frequent, in many it was irregular. The maladies with which it is associated, the state of the heart giving rise to a functional murmur, are all those in which deranged action of the organ occurs sympathetically, as disorders of the digestion or of the uterus; in perverted innervation of the heart in diseases of the brain. The author has met them in diphtheritic paralysis, and frequently in those respiratory affections in which decided obstruction in the pulmonary circulation occurs—*e.g.* tubercular infiltration, asthma, pneumonia. He believes that they are commonly mistaken for signs of valvular disease. During the American war he states that a number of soldiers got their discharge who turned out to have merely murmurs of this kind. Murmurs from temporary excitement of the heart are not uncom-

mon. He thinks that such a murmur might be produced by excitement in at least one out of twenty healthy persons. The author discusses at considerable length various theories of the mode of production of these functional murmurs. His paper is illustrated by twelve cases.

ART. 38.—*Some Remarks on Tricuspid Regurgitation and Mitral Pre-systolic Bruits, with Case.*

By HENRY G. SUTTON, M.B.

(*London Hospital Reports*, vol. iv.; and *British and Foreign Med.-Chir. Review*, July.)

The murmurs which form the subject of this paper are considered by Dr. Sutton to be far more common than is generally believed; both are not infrequently met with, and in the case of the pre-systolic murmur, he believes it to be one which is very commonly presented to the physician's notice. The tricuspid regurgitant murmur is usually heard with the greatest intensity over the ensiform cartilage, but sometimes it is heard loudest a little to the left of the sternum; it is distinguished from the mitral murmur by not being heard at the angle of the left scapula. Dr. Sutton describes some cases illustrating the existence of a tricuspid regurgitant murmur, both from his own practice and from that of others, and in the post-mortem examinations it was found that the right ventricle was much dilated and hypertrophied, but there was no special disease of the tricuspid valve. There was also in many of the cases chronic disease of the lungs, and in two there was contraction of the mitral orifice. Dr. Sutton considers that the regurgitation through the tricuspid valves was brought about by the great distension of the right ventricle, which was so dilated that the valves could not close the orifice, and this condition was produced by the pulmonary or mitral disease alluded to, or, in one case, by chronic emphysema. In reference to the pre-systolic bruit, Dr. Sutton, after alluding to papers already written on the subject, relates a case which came under his own notice, in which this bruit existed, and in which the post-mortem examination showed a contracted mitral orifice, with induration of its walls. He has met with twelve cases of pre-systolic bruit during the last two years, and he agrees with Dr. Gairdner that it is the simplest of all murmurs to define.

ART. 39.—*Reduplication of the Sounds of the Heart.*

By A. GEIGEL and P. GUTTMAN.

(*Verh. d. Würzl. Med. Ges. N. F.*, 1, 2, p. 49, 1868; *Virchow's Archiv*, p. 105; *and Archives Générales de Médecine*, June.)

It has been asserted that reduplication of the second sound of the heart possesses no importance in prognosis or diagnosis. According to Geigel, this symptom is, no doubt, occasionally observed, although at long intervals, amongst healthy subjects; but it is constantly found in a series of patients who suffer from mitral narrowing and insufficiency. The majority of such patients are midddle-aged, thin, anæmic, and have suffered for a long time from cardiac affection. In these cases, a reduplication of the diastolic sound may be generally heard at the situations where the tricuspid orifice, the aorta, and the pulmonary artery are auscultated. The two diastolic sounds are more intense over the aortic and pulmonary orifices than over the mitral; the second diastolic sound is also more marked over the situation of the pulmonary orifice than over the situation of the aortic. We may explain the reduplication of the diastolic sound by assuming a non-simultaneous occlusion of the semi-lunar valves of the aorta and of the pulmonary artery; the valvules of the latter shutting an instant after the valvules of the former. Hence it is that the second diastolic sound is more accented over the situation of the orifice of the pulmonary artery than the first. The retardation of the closure of the pulmonary valves is due to the left ven-

tricle ridding itself rapidly of its blood, whilst the right, gorged with blood, empties itself more slowly. Also the aorta retracts more energetically and more rapidly than the pulmonary artery, the elasticity of which diminishes day by day in proportion as the engorgement of the right heart increases. A constant reduplication of the second sound of the heart may serve as a diagnostic sign of mitral narrowing or insufficiency; but reduplication of the second sound of the heart may also be produced in any case in which engorgement of the right heart and dilatation of the pulmonary artery exist. In the latter case the symptom will not be so constant as in that of valvular alteration. Reduplication of the second sound is also observed in young robust people attack with tuberculosis, in the emphysematous, in pleurisy, and in fatty degeneration of the heart.

Guttmann, without denying the assertions of Geigel, attributes much less importance to the sign in question. He does not admit that reduplication of the second sound of the heart is an habitual sign of mitral contraction. On the contrary, he regards it as a sufficiently rare phenomenon, never constant, and only to be observed where the patient is in a state of complete repose. When the heart's activity is thoroughly called into play, the reduplication disappears.

Art. 40.—*Sea-air and Heart-disease.*

By Alfred Haviland.

(*The British Medical Journal*, July 17.)

At a meeting of the Ladies' Sanitary Association, held on July 2d, Mr. Alfred Haviland read a paper on "Sea-air and Heart-disease." Dr. Farr presided.

Mr. Haviland commenced by saying that his paper was the second chapter on the Geographical Distribution of Heart-disease in England and Wales; the first having been read last year at Birmingham, before the Social Science Congress, on which occasion he showed that neither geological site, water-supply, temperature, occupation, food, clothing, nor hereditary tendency, so far as the present generation is liable to be predisposed to heart disease from its Scandinavian, Saxon, or its Celtic origin, would account, as general causes, for the strange geographical groupings of the proportional mortality from the disease under discussion.

The statistics of heart disease, which his maps illustrated, were the result of large numbers, 236,973 deaths from this cause; and the period embraced ten years—1851–60. The author's present object was to show how the mortality from this cause was influenced by propinquity to the sea-coast and the ventilation of the country by the means of the great natural inlets which admitted into the Midland districts the prevailing sea-winds. The average annual number of deaths to every ten thousand persons living was 12.7 throughout England, and this number he made the standard of comparison. All districts, or groups of districts, having a mortality *at* or *below* this number, were colored *red*, and all *above* it *blue*. The map of England and Wales so colored plainly showed, first, that the *red* or *minus*-average districts predominated along the coast-line, and secondly, that they stretched inland wherever an inlet presented itself, which was in the axis of the prevailing winds and the incidence of the tidal wave. The east coast, with its three great inlets of the Humber, the Wash, and the Thames, and comparatively low coast, had a mean mortality of 11.0, or 1.7 below the general average. The western coast, with its great inlets of the Bristol Channel, Cardigan Bay, the estuaries of the rivers Mersey and Dee, Morecambe Bay, and Solway Frith, besides the innumerable inlets along the courses of the Welsh rivers which flow into the St. George's Channel and the Irish Sea, had a mortality of only 10.4, or 2.3 below the mean; whilst the south coast, which was characterized by precipitous cliffs, by having no great inlet, and the mouths and courses of its rivers, as a rule, *at right angles to* instead of *in the axis* of the tidal wave and prevailing winds, had a relatively high mortality, being 13.3, or 0.6 above the mean. Again, when the coastal are compared

with the inland districts, a remarkable contrast presents itself. For instance, if a line be drawn from Berwick to the Isle of Purbeck, corresponding to the 2° west longitude, it will cut through thirty-two *plus* average districts out of a total of forty-four, the mean mortality of which is 16.0, or 3.3 above the average; in other words, an increase in the number of deaths to the extent of more than one-quarter, a rate which would, in round numbers, have represented in the ten years sixty thousand more deaths than actually took place, had the mortality not been modified by the *minus* average districts along the coast and up the great inlets from the sea. The author then proceeded to show that the geographical distribution of heart disease taught us on a grand scale the direct advantages of free and unobstructed ventilation; a fact that would recommend itself to an association which had done so much towards the extension of practical hygiene, by the publication of cheap and valuable works on the necessity of thoroughly ventilating our dwellings. Having already given a general idea of the coast line, Mr. Haviland drew attention to the inland *minus* average or *red* groups, which, without exception, follow the courses of the great sea-inlets; some of these penetrate many miles inland, whilst others stretch from one side of England to the other, forming broad belts of red groups which stand out in remarkable contrast to the surrounding *blue* districts which are characterized by a high mortality. 1. A great horizontal belt stretches across England from the Irish Sea to the German Ocean, and is uninterrupted by a single *plus* average district; on the west, it follows the course of the river Ribble to its source, and receives the full in-draught of the westerly gales; on the east it follows the river courses of the Humber, the Ouse, the Wharfe, and the Aire to their sources, and receives the full afflatus of the southeasterly winds which blow over the German Ocean; the mean mortality of this belt is 11.3, or 1.4 below the general average. 2. The next great inland group extends inland from the estuaries of the Mersey and Dee, along the red sandstone vale of Shropshire and Staffordshire, until it meets the Severn and Avon group, which it joins, and with it and the *red* minus average districts along the coast of Wales completes a remarkable *red* cordon around the great *plus* average group of Herefordshire, Worcestershire, Shropshire, and Brecknockshire. This group receives the full afflatus of the northwest wind, which, when it prevails, sweeps up this vale, which is also influenced by the flux and reflux of the sea and land breezes during the summer. The mean mortality of this group is 11.0, or 1.7 below the average. 3. The next is the Severn and Avon inland group, which runs up the course of these rivers from the Bristol Channel to the centre of England, whence it joins the inland group of the Wash, and thus forms a diagonal belt of low mortality from sea to sea. Through the Wash this extensive area is ventilated by the northeasterly winds, and through the Severn and Avon by the southwesterly, which blows up the Bristol Channel, besides enjoying the bidiurnal change consequent on the flux and reflux of the tidal wave and the sea and land breezes in the summer. The mortality along this group is 11.9, or 0.8 below the average. 4. The next great inland group of minus-average districts is that of the Thames, which extends from the coasts of Essex and Kent to Kingston in Surrey, and has a mean mortality of 11.1, or 1.6 below the average. In this group we see the great influence of the sea-winds, which are guided up the river by the hills which flank its banks, and of the bidiurnal change of air consequent on the tidal flow and ebb. In conclusion, the author urged the necessity of our availing ourselves of the great practical lesson taught us in these facts, by making practical use of them in the construction and reconstruction of our streets, the ventilation of which is of such paramount importance to the public health. He strongly pointed out that as the inlet of the Thames is the great source of health to London, we should be very jealous how we allow its embankment to be encumbered by public buildings, which must act as barriers to the genial influences of the tides and the prevailing winds which sweep over the river, and would, if allowed to do so, blow up the innumerable narrow streets to the north of the Strand and cleanse them of the air-sewage which hangs about the alleys, the *culs-de-sac*, the quadrangles and narrow streets of that wretched group of districts.

The author exhibited a colored map of London, which showed that the mor-

tality from heart disease was greatest in those districts which were prevented from having their streets flushed by the prevalent winds on account of the defective plan of the streets, which were so built as to exclude the healthful influence of our natural street flushers.

Instead of building upon the banks of the Thames, it would be more in accordance with the practical science of the present day, and the dictates of common sense, to provide inlets to admit fresh air to the densely-populated districts which, from the defective arrangement of their streets, are now excluded from it. Street-ventilation is a subject of great importance, and can only be carried out successfully by studying the several elements of our climate, and especially the *direction* and *force* of the prevailing winds; we have an accumulation of facts and statistics upon this subject, let them be used for what they were originally intended—the public good.

Let the London people enjoy their river, the source of their health and wealth, and have its banks clothed with green sward and shady trees, which will prove a finer sight from the river than any architect can rear.

(D) CONCERNING THE ALIMENTARY SYSTEM.

ART. 41.—*On Uræmic Diarrhœa.*[1]

By J. MILNER FOTHERGILL, M.D.

(*British Medical Journal*, August 28.)

The writer commenced by alluding to the power possessed by the secreting cells of certain excretory organs, of not only appropriating their own peculiar materials, but of eliminating other materials when in excess. As an example, the kidneys in some cases of jaundice excreted biliary matter; and all were aware of the capacity of the intestinal canal to supplement the kidneys. He then drew attention to the diarrhœa frequently accompanying chronic renal disease, advancing the view that it was to be regarded as a salutary action, freeing the blood from effete products, and relieving the kidneys of their work. It was rather a compensatory or vicarious excretion than a morbid process. After illustrating his view by several cases, he urged strongly that the treatment was not to arrest the alvine flow until some other channel be patent. The rational treatment, he contended, was to act freely on the skin, and to restore the action of the kidneys, and not only to arrest the diarrhœa by the use of powerful astringents when the renal action was re-established, or the diarrhœa was in itself likely to prove fatal. Afterwards, the action of the skin must be fostered, and the patient protected from atmospheric changes, and treated with iron and other adjuncts to nutrition.

ART. 42.—*On Instantaneous Death caused by the Passage of Aliments in course of Digestion from the Stomach to the Air Tubes.*

By Dr. ACHILLE FOVILLE.

(*Archives Générales de Médecine*, Juillet.)

1. Death may be produced in an instantaneous and really striking manner by the passage of alimentary material in course of digestion, or of chyme, from the stomach into the air tubes.

2. It is possible that this accident is sometimes caused, as Mérat holds, in the following manner: At the moment when the mouth is filled with vomited material, an inspiration takes place, which withdraws a portion of this material into the trachea; this mechanism, however, does not seem to account for every case.

---

[1] Abstract of a paper read at the thirty-seventh annual meeting of the British Medical Association, held in Leeds, July 27th, 28th, 29th, and 30th.

3. There are other instances in which, at the very moment when the elementary material is rejected from the stomach, the posterior orifices of the mouth and the nasal fossæ are closed hermetically by the spasmodic contraction of the muscles, which act during deglutition, whilst the opening into the aerial passages remains free; then the food is driven into the last with so much force, and in such great quantity, that it causes a sudden and absolute suppression of respiration, and consequently sudden death.

4. This muscular occlusion of the posterior orifices of the mouth, and of the nasal fossæ, may take place in energetic voluntary efforts, and during the initial stage of an access of epilepsy. Thus many of the subjects, with whom sudden death occurred in this manner, were in one or the other of these two conditions at the time when they succumbed.

Art. 43.—*On Peri-umbilical Inflammation in Tuberculization of the Peritoneum.*

By Dr. Emil Vallin.

(*Archives Générales de Médecine*, Mai.)

1. In certain cases of tuberculization of the peritoneum, one observes in the neighborhood of the umbilical scar redness and indolent œdema of the skin, which may exist for a period varying from one to two months; by the absence of shooting pains, of tenderness on pressure, fluctuation, and concomitant febrile reaction, these cases are distinguished from those in which phlegmon of the abdominal walls exists.

2. These symptoms may be the early indication of an umbilical perforation; at other times they may be seen to disappear slowly in one of the periods of remission of the chief malady almost unnoticed by the patient, but not without presenting serious diagnostic and prognostic indication.

Art. 44.—*A Case of Bursting of a Varicose Spleen.*

By Dr. Cohnheim.

(*Virchow's Archiv, Medizinische Jahrbücher.*)

A man, twenty-seven years of age, was under treatment for several months, on account of some rather obscure symptoms. During the last three days of life he complained of a stitch in the left side. Shortly after a meal the patient suddenly fell down with a cry of anguish, and in a few moments was dead. On post-mortem examination there was found in the peritoneal sac, especially in the left hypochondrium, a quantity of sanguinolent fluid, and some well-coagulated cruor. The spleen was six inches long, five inches broad, and two inches thick; the surface was uneven, and presented numerous rounded prominences of a dark-blue color; and on one of these was found a rent about three-quarters of an inch in length, which was filled with clotted blood. On section, the spleen was found to be filled with irregular and compound thrombus masses, both old and recent, filled with coagula, varying from the size of a pea to that of a goose's egg, and containing a number of cavities which communicated with each other. In the course of one of the largest of these ectasiæ was found the external rent. These cavities possessed smooth venous walls; at a few spots only was the surrounding tissue formed of broken-down pulp. The splenic parenchyma was tolerably firm, of a grayish-red color, and presented large and numerous follicles. On one branch of the arteria canalis, near the helix, was seated a small aneurism of the size of a bean; this, however, did not communicate with any of the blood cavities in the interior of the spleen. Into these cavities could be followed branches of the veins, and the microscopical structure of these walls indicated that one had to do with an instance of phlebectasis. Similar but smaller phlebectases, in connection with branches of the portal

vein, were found in the right lobe of the liver, close under the upper surface. The remaining organs of the body were normal, and gave no holding point for the explanation of the venous enlargement.

(E) CONCERNING THE GENITO-URINARY SYSTEM.

ART. 45.—*On the Early Indications of Nephritic Irritation.*

By G. OWEN REES, M.D., F.R.S., Physician to Guy's Hospital.

(*Guy's Hospital Reports*, vol. xiv.; and *British and Foreign Med.-Chir. Review*, October.)

Dr. Rees pointed out many years ago that in albuminuria the extractive matters of the blood always accompanied the albumen; that under some other conditions the extractives of the blood appeared in the urine without albumen, and that the presence of the abnormal ingredient was determined by testing with tincture of galls. But the points left undetermined were—whether the extractives remained in the urine after the albumen had entirely disappeared, and whether the extractives might not be present before albumen appeared? If the latter point should be answered in the affirmative, then an important warning might be given of the approach of Bright's disease. Dr. Rees now gives three cases in which the presence of extractives was ascertained by the test of tincture of galls, and in one of which albumen was afterwards discovered. In the other two cases, although the general symptoms pointed to albuminuria, no albumen was found in the urine, and probably, the warning given averted the supervention of serious disease. Dr. Rees snggests that the urine should also be tested for blood extractives in Addison's disease, and he hopes to make some observations hereafter on that subject.

ART. 46.—*On Septicæmic Nephritis.*

By Dr. FISCHER, of Breslau.

(*Gazette Hebdomadaire*, No. 41, 1869.)

The author establishes the connection which exists between acute nephritis and putrid suppuration. Dr. Fischer has noticed this complication in all the forms of severe anthrax and in diffuse phlegmon. Injections of putrid pus on a dog gave rise to hemorrhagic nephritis, which disappeared after a short period of repose, but the animal died when the experiment was recommenced. The author thinks that he can conclude that nephritis in anthrax and phlegmon is the result of the septic action exerted upon the kidneys by the purulent mass absorbed, which is in a state of acid fermentation. On distilling the altered pus Dr. Fischer obtained a large quantity of fatty acids, especially butyric acid. A new series of experiments was then made, in which butyric acid with water was injected into the veins of dogs. The result confirmed those which had been previously obtained by Dr. O. Weber; a lowering of the temperature was constantly produced. Between this fact and the elevation of the temperature of pyæmic patients there is a contradiction. This, however, is explained by the conditions of septicæmic fever; together with butyric acid are absorbed pyrogenic substances, and the lowering of temperature cannot be manifested. Elevation of the temperature may be observed, if, during the experiments we inject together with the butyric acid the products of suppuration from a wound in the first stage of phlogosis.

ART. 47.—*Diabetes Treated with Carbonate of Ammonia administered largely.*

By F. W. PAVY, M.D., F.R.S.

(*British Medical Journal*, June 26.)

From the facts of the case related by Dr. Pavy, it would seem that the carbonate of ammonia (100 grains dissolved in a pint of water, and taken during the course of twenty-four hours) exerted a controlling influence over the disease.

ART. 48.—*Lime-water in the Treatment of Bright's Disease.*

(*Medical Press and Circular*, July 28.)

Küchenmeister recommends, in the treatment of Bright's disease and of nephritis after scarlatina, the use of large doses of lime-water, theoretically from its having the property of dissolving proteine. *Lyon Médicale* details the treatment, and says that caustic lime in solution, or any of the soluble salts of lime, will answer equally well. He has seen the urine increase from 30 grammes to 120 the first day, 180 the second, 300 the third, and up to 1020 the seventh day under this influence; sometimes a slight hemorrhage necessitates the disuse of this treatment; but the quantity of albumen in the urine sensibly diminishes.

ART. 49.—*On a purely Milk Diet in the Treatment of Diabetes Mellitus.*

By ARTHUR SCOTT DONKIN, M. D., Lecturer on Forensic Medicine to the University of Durham, and Physician to the Sunderland Infirmary and Dispensary.

(*The Lancet*, October 23.)

During the last three years Dr. Donkin has, in certain diseases, put the milk treatment, *methodically persevered in*, to the test of direct experiment, both in hospital and private practice; and with success much beyond his own expectation. The author records two cases of diabetes mellitus in which the disease was far advanced, and the symptoms fully developed. In the one the patient was *rapidly* restored to a condition of health and strength, a little sugar only remaining in the urine to show that the disease was not completely eradicated. In the other, however, *the cure was rapid and complete.* Dr. Donkin claims to be the first who has treated and cured this disease by an exclusively milk diet.

ART. 50.—*Treatment of Diabetes by Peroxide of Hydrogen.*

Under the care of Dr. CLIFFORD ALLBUTT.

(*The Lancet*, July 31.)

The great hopes which were entertained of the action of this remedy seem to be fading away. Dr. Allbutt has given the solution of peroxide of hydrogen and the so-called ozonic ether a long and careful trial in four cases of diabetes; but the want of success in each case has deterred him from submitting any more diabetic patients to the same useless procedure.

The four cases were chosen as representing four degrees of severity of the disease. The patient who was taken as an example of the extreme stage, was treated with increasing doses of peroxide of hydrogen for six weeks. No good effects were noticed, and the patient died a short time after the discontinuance of the medicine.

Two of the cases were in private practice, and two were in the infirmary.

The therapeutic experiment was carried out in the infirmary with great care. The two patients were taken in at the same time, and their weights, quantities of urine, amounts of water drunk, and specific gravities of urine were taken daily. For about ten days they were placed on an ordinary diet (some restriction in the quantities of potatoes and bread only being made), and the daily variations noted. The peroxide of hydrogen, the purity of which was guaranteed, was then given in increasing doses, until the two patients were taking half an ounce of the liquor every six hours. In one the slight daily decrease of weight was arrested for a day or two; but this was apparently accidental, as it soon recommenced. It was intended to publish the columns containing the daily weight, water drunk, urine passed, and specific gravity; but as no important variations were seen in them on administration or withdrawal of the medicine, it seemed unnecessary. Both patients improved subsequently on carbonate of ammonia and restricted diet, though one of them, as stated, ultimately died. The peroxide of hydrogen was given for about two months in each case.

Art. 51.—*Prognosis in Bright's Diseases.*

By Austin Flint, M. D.

(*The Medical Record*, July 15.)

At a meeting of the Medical Society of the County of New York, Dr. Flint read a paper on the above subject. After a discussion of the elements which enter into prognosis in general, showing that this must draw upon every department of medical knowledge, the speaker proposed to consider the prognosis in Bright's diseases: 1st. With reference to the different renal affections constituting Bright's diseases; 2d. With reference to their symptoms and complications; and 3d. With reference to their treatment.

1st. *The Different Affections.*—The doctrine that the various lesions of the kidney, formerly comprehended under the term *Bright's disease*, are but different phases or modifications of one affection, is now nearly abandoned. We have come to speak of Bright's *diseases*, and the question now is, How many and what are the different affections to which this name has been applied? To answer this question completely is, perhaps, at present impossible; and this is not strange when we compare the history of renal pathology with that of the pathology and diagnosis of pulmonary diseases for example; when we recollect that it is but lately that pneumonia, bronchitis, and pleurisy were confounded. But considerable progress has been made in the differentiation of renal affections; and, without canvassing disputed views, the five following may be enumerated as having their individuality as well established as the present state of our knowledge admits: (*a*) inflammation within the convoluted tubes, called by Johnson "desquamative nephritis," and by Dickson "tubal nephritis;" this, like other inflammations, may doubtless be acute, subacute, or chronic; (*b*) the "smooth white kidney;" (*c*) the fatty kidney; (*d*) the fibroid, contracted, atrophied, or cirrhotic kidney; (*e*) the waxy, lardaceous, or amyloid kidney.

With regard to prognosis these five affections widely differ. Desquamative nephritis may, and perhaps commonly does, end in recovery, leaving the structure of the kidneys intact. But it probably sometimes leads to the smooth white kidney, and perhaps also to the fatty kidney. Whether recovery from either of these conditions ever occurs, it is impossible to say; but it is "highly probable that, having progressed to a certain extent, the morbid process or processes, whether inflammatory or not, which these diseases involve, may cease, and retrogression take place, leaving at length the organs, if not intact, not damaged enough to compromise seriously their functional capacity. . . . The cirrhotic kidney must be regarded as involving a permanent lesion; . . . but even this may cease to be progressive, after a greater or less amount of damage, and recovery be possible in the same sense as recovery from tuberculous disease of the lungs is considered as having taken place, that is, the morbid processes cease, and there are no longer any symptoms of disease, but the

functional capacity of the organ is more or less impaired." The waxy kidney is of less practical importance, being so rare. It is possible that its peculiar lesion may disappear, or at all events become non-progressive, leaving the kidneys with functional capacity sufficient for life and even for health.

The prognosis, then, is by far the most favorable in desquamative nephritis, and decidedly the gravest in the cirrhotic kidney. Hence the importance of an accurate differential diagnosis. Bnt it is not always possible even to diagnosticate desquamative nephritis; nor can we determine, in the case of the other four affections, whether the amount of damage suffered is incompatible with comfortable health for an indefinite period.

In an analysis of one hundred and three cases, mostly observed and recorded by Dr. Flint himself, there was good ground for believing that in twenty-two recovery took place. In several of these twenty-two cases it was quite certain that the disease was tubal nephritis; but in others of them there was room for supposition that there were other lesions which had ceased to progress. This analysis illustrated in a marked manner a very important point, "the ability of the system to tolerate Bright's diseases when they are progressive as well as when they are stationary." Many of the hospital patients had been discharged, feeling well enough to return to their toilsome vocations. In many cases the patients had continued to labor for weeks and months after the appearance of œdema of face and limbs. Of fifty-three cases, whose previous history showed no antecedent disease, in thirty the general health was apparently good up to the special manifestations of renal disease, that is, either dropsy or uræmic phenomena. In six of these thirty cases, uræmic coma or convulsions constituted the first special manifestations. Two of them were related at length, and these conclusions drawn: (*a*) "Coma and convulsions may occur when the health, to all appearance, is good, the disease destroying life, as it were, by a sudden explosion. The most frequent disease in such cases, undoubtedly, is the contracted kidney. (*b*) Renal disease may exist for a long period, that is for years, without giving rise to any notable manifestations, and without compromising apparently the general health."

2. *Symptoms and Complications.*—"The ability of the system to resist and recover from any important affection is more or less impaired by its occurrence in connection with Bright's diseases." It therefore becomes important in the prognosis of such affections to determine whether or not renal trouble exists, perhaps in the latent form. For this we must rely upon the urine; and in considering its testimony it is to be remembered that albuminuria may exist, without indicating any of Bright's diseases, and also that one or more of these may exist, though rarely, without being indicated by albuminuria.

As to complications, observation shows that the serous inflammations, pleurisy, pericarditis, peritonitis, and meningitis may be caused by Bright's diseases; and that when so caused they are commonly fatal, with the exception of pleurisy, which is itself far more dangerous than when occurring as an independent affection. There are strong reasons for believing that "simple hypertrophy" of the left side of the heart is an effect of renal disease; and that in this connection, as in the case of hypertrophy dependent on valvular lesion, it is probably conservative, and so does not render the prognosis more unfavorable. Valvular lesions can hardly be charged to the account of the kidneys. When they coexist with renal disease, their own evils and dangers are to be added to those of the renal trouble.

As to symptoms, uræmic coma and convulsions always involve great immediate danger, sometimes destroying life in a few moments. Yet the patient may survive them, and make a complete recovery from the renal disease; or if this disease progresses, still "the attacks may recur after long intervals, during which there may be an appearance of recovery, inclusive even of the disappearance of albumen and tubular casts from the urine." Uræmic vomiting and purging betoken danger of coma and convulsions; they also involve danger from innutrition and asthenia, which may even prove fatal. Dropsy is not of itself a specially unfavorable sign, but it may become so if persistent and returning speedily after removal, particularly if associated with great anæmia and prostration. In certain situations it of course involves great immediate danger, as

in œdema of the lungs and of the glottis. As a rule, in proportion as general dropsy is great, the urine contains albumen in abundance. But there seems to be no constant relation between albuminuria and the uræmic phenomena. That there is a relation between these phenomena and the amount of urea excreted, there can be no doubt. But our data are as yet insufficient to establish any fixed rule with reference to this relation.

3. *Treatment.*—That the prognosis, in many diseases, depends greatly on our power to control them by treatment is evident. How is it with Bright's diseases? We have no specific against them; but we may unquestionably sometimes postpone or prevent their worst effects—uræmic coma and convulsions, with their terrible dangers—by therapeutical interference. We may save a patient, otherwise doomed to die within a few hours, by the energetic use of hydragogue purgatives, elaterium being incomparably the best, and by the hot-air or vapor bath. The elaterium is no less valuable in the symptomatic hydrothorax and pulmonary œdema.

"The first great object of treatment of the Bright's diseases which involve structural lesions of the kidneys is the arrest of their progress. The next great object is the retardation of their progress. And when these objects are beyond the resources of medicine, a great object still remains, namely, to secure for the longest possible period, and as completely as possible, the tolerance of these diseases. Of course the prognosis is affected favorably in proportion as these several objects lie within the grasp of treatment." As we have no specifics, and even the palliative cathartics and diuretics may do harm rather than good if persisted in, our general treatment resolves itself into that which places the system as a whole under the best conditions. A great part of this will be hygienic, and the most important considerations relate to climate. Dickinson's statistics show that the ratio of deaths from renal disease to the total number of deaths is, in London, 1 to 49; in Paris, 1 to 266; while in Bombay it is 1 to 2800; and in Genoa 0 in 4303. The records of the hospital in Milan give 1 case of dropsy with renal disease to 2807 admissions; those of St. Mary's Hospital, London, 1 to 31. The statistics of the British army show the proportion of deaths from renal disease notably greater in temperate climates than in either tropical or cold ones. These facts warrant the expectation in cases of chronic Bright's diseases occurring in temperate climates, that arrest of the diseases, or retardation of their progress, as well as increased and prolonged tolerance of them, may often be effected by a timely change of climate." It is very desirable to collect cases showing the results of such change. As Paris and London offer so marked a contrast, it is possible that changes not involving removal to great distances may prove very serviceable.

Dr. H. Knapp referred to the importance of retinitis as a prognostic sign in Bright's diseases. It was commonly stated that retinitis occurred only in the advanced stages of the renal affection, and this was true of the vast majority of cases; but sometimes it presented itself even in the early stages, so that the ophthalmoscope might determine the diagnosis months before any thoracic or cerebral symptoms appeared. In many cases the engorged veins would diminish in size, as also the exudations and hemorrhages and spots of fatty degeneration; but relapses were almost sure to occur, so that, where retinitis existed, it was pretty safe to predict a fatal result. Yet exceptions to this rule were to be found, and the doctor had met with some in his own practice. One patient, whom he had found affected with retinitis in 1862, and had supposed long dead, turned up five years later in full health. Another, a man forty or fifty years of age, had Bright's retinitis in one eye, and said that he had recovered from a similar attack in the other eye some eight years before. The multiplication and peculiar contortion of the retinal vessels, as exhibited in these two cases after recovery, the speaker has never seen paralleled.

ART. 52.—*Diabetes in a Case of Tumor of the Medulla Oblongata.*

By J. B. DOMPELING, M.D.

(*Medical Arch. von Geneestr.*, 1868, iv.; and *Archives Générales de Médecine*, Mars, 1869.)

Dr. J. B. Dompeling reports the case of a patient who met with a fall on the back of the head when about fifteen years of age. Since that time he suffered from sharp pains in the head, and in the back of the neck; the lower limbs became considerably enfeebled, and there was diplopia. During the space of some years paresis of the limbs of the right side became established with marked blunting of tactile sensibility; sensitiveness to heat was augmented; all the muscles of the right eye were paralyzed; at the same time symptoms of diabetes appeared. The urine contained from five to seven parts per cent. of sugar; this proportion diminished during a season passed at Carlsbad, but soon after the disease advanced, and was accompanied with fever and cough. The patient died suddenly six years after the first symptoms were observed.

After death, a tumor about the size of a small nut was found, occupying all the right half of the medulla oblongata. It was continous with the medulla, not limited. It was formed by a fasciculated sarcoma. On its inferior surface were found two small vesicles filled with fluid, but containing no trace of cysticercus. The longitudinal furrow of the floor of the fourth ventricle was thrust to the left; the roots of the accessory nerve and the lower root of the pneumogastric were very atrophied.

(F) CONCERNING THE CUTANEOUS SYSTEM.

ART. 53.—*On Eczema.*

By ERASMUS WILSON, F.R.S., Professor of Dermatology at Royal College of Surgeons.

(*Journal of Cutaneous Medicine*, July.)

The following are the various predisposing causes arranged in physiological order, which, Mr. Wilson writes, may be alleged capable of giving rise to eczema:—

Weakly parentage.
Errors of diet.
Errors of hygienic principles; namely, air, exercise, cleanliness, clothing, &c.
Viscissitudes of cold, heat, and moisture.
Transition of seasons.
Ungenial climate.
Vaccination.
Dentition.
Excessive growth.
Deranged menstruation.
Excessive labor, mental and physical.
Mental disquietude, anxiety, affliction.
Sexual excesses.
Uterine, reproductive, and puerperal derangements.
Deranged digestion.
Exhaustion from disease.
Hemorrhage.
Cachexia.
Gout and rheumatism.
Nervous shock and fright.
Local injury.

In determining the cause of a given disease, we have to consider the agencies which conduce indirectly, directly, and immediately to the result which it is sought to explain; or, in technical language, the predisposing, the exciting, and the proximate cause. Thus, if we take, by way of illustration, an instance of eczema infantile, an error of diet may be the predisposing cause, friction of the skin an exciting cause, and hyperæmia, with exudation or desquamation, that is, eczema, the proximate cause. The predisposing causes are in many instances only relative in their operation: thus an error of diet, besides being predisponent, may also be excitant; and the same may be said of hygienic principles, vicissitudes of temperature, and most of the others. Again, error of diet may be the predisposing cause, and cold or heat the exciting cause; and furthermore, with hereditary diathesis, acquired diathesis from weakly parentage, or errors of diet or hygienic principles as a predisposing cause, vaccination or dentition may become the exciting cause. In fact, in this as in most of the examples of medical philosophy, science is the servant of knowledge: science feeds the furnace and greases the engine, but knowledge is the acting mind, and directs the course and navigation of the ship.

The *exciting causes*, or such as directly excite the disease we are now studying, are the following:—

Local Group.

Cold,	Chemical irritants,
Heat,	Mechanical irritants,
Moisture,	Varicose veins,
Friction,	Traumatic injury.

Constitutional Group.

Unwholesome food,	Certain medicines.

In concluding his elaborate article on this affection, Mr. Wilson writes: "Looking to the many causes which contribute to render eczema a more than usually chronic and inveterate affection; and taking into consideration the circumstance that it is necessarily a disease of tardy movement towards cure, prone to repeated and vexatious exacerbations and relapse, we may venture to deliver the general verdict—that eczema is not dangerous to life, that it is always susceptible of mitigation, and generally admits of permanent cure."

ART. 54.—*On the Treatment of Eczema.*

By ERASMUS WILSON, F.R.S.

(*Journal of Cutaneous Medicine*, October.)

The local treatment of eczema, Mr. Wilson writes, may be summed up in a few comprehensive words: *allay irritation, and restore the weakened tissues to the normal standard of health.* The most complete mode of allaying irritation is to exclude the atmospherical air without interference with the transpiration of the skin. The method of restoration of the skin to its normal health, is by the judicious use of stimulant remedies. Stimulants when administered internally are termed tonics, so that the external treatment proposed for the corroboration of the tissues of the skin, is eminently *tonic.*

The oxide of zinc ointment, properly benzoated, and made of pure materials, pure oxide of zinc and pure lard, is the most perfect local application for eczema at present known; and, indeed, is so perfect, that we doubt the possibility of its ever being excelled. It is suitable for every form and every stage of the disease, but most of all for the dry forms; and it should be applied in a twofold manner, namely, in substance with the point of the finger, or a thin spatula, or the hand, so as to distribute it uniformly over the diseased surface; and, spread on some soft material such as lint, cambric, or fine flannel. Employed in this way, the oxide of zinc ointment has all the advantages and most of the uses of the poultice, without the objectionable qualities of the latter, the dirt, the fermentation, the saturating moisture, and the decomposition. And it

fulfils the purpose which it was sought to accomplish; it excludes the atmosphere without preventing transpiration; it keeps the surface upon which it is applied soft and flexible, and it gives nature time to effect the reparative processes needed by the skin. Sometimes the dressing, if the diseased surface be of small extent, may be kept in its place by strips of adhesive plaster; sometimes, and when possible this is always desirable, it is maintained in its place by the moderate pressure of a bandage either of elastic cotton or of Domett's flannel. But there are situations in which a bandage could not conveniently be applied, such as the face and the general surface of the body; and others in which a dressing of any kind would be objectionable, as behind the ears, in the axillæ, and in the region of the pudendum; and all these cases we must trust to the reapplication of the ointment as frequently as it may chance to be rubbed off.

It may be laid down as an axiom of cutaneous medicine, that eczema, in its active stages, should never be washed; one of the first instructions which you give to the mother of an infant suffering under eczema infantile is to avoid washing the eruption; discharges may be absorbed by a soft napkin, adjacent surfaces may be wiped with a similar material, dirty ointment or loosened crusts may be lightly brushed away; but for the nonce no water should be employed. The office of the zinc ointment is to sheathe and protect the morbid surface; but it performs another and very important function, namely, that of creating an artificial layer, to take the place, for the time being, of the lost cuticle; and this concretion of the ointment should be studiously promoted by applying fresh and fresh ointment as often as that previously applied has become dried up, or has been accidentally wiped away.

When the dressings are properly applied, and adjusted with nicety, they should remain undisturbed for as long a period as possible—say for twenty-four hours, or even longer. There are two regions of the body where the oxide of zinc ointment is unsuitable, namely, on the eyelids; for in that situation, getting upon the conjunctiva, it creates irritation, and gives pain; and on the scalp, where it would tend to mat the hair together, and prevent a necessary condition in the treatment of eczema, namely, perfect cleanliness. In both these situations you should substitute the nitric oxide of mercury ointment for the zinc ointment, diluted in the proportion of one part to three of benzeated lard.

Heat, itching, and pain the benzoated zinc ointment will generally allay; but if it fail to accomplish that purpose, there are certain agencies which you may superadd to your treatment, but always without disturbing, or with as little disturbance as possible to, the zinc ointment. For the relief of heat you may apply a spirit or ether lotion to the heated surface by means of a fold of cambric *more usitato;* for the relief of itching you may use, in a similar manner, an emulsion of bitter almonds, with hydrocyanic acid and spirits of wine; and for the relief of pain, you may employ a fomentation of poppy-heads. We believe that you will hardly need more at this stage of the disease.

If the bowels are confined, we may help them with a little magnesia and rhubarb, or manna, or castor oil; if he be emaciated, and exhibit a tendency to waste, we may check his prostration by cod-liver oil; but the one and almost indispensable remedy is the nerve-restorer, arsenic. Try two minims of the liquor arsenicalis three times a day in the combination known as our ferro-arsenical mixture. ℞.—Vini ferri, ℥iss; Syrupi simplicis, ʒiij; Liquoris arsenicalis, ʒj; Aquæ anethi, ℥ij; misce. One drachm will give you two minims of liquor arsenicalis. It may be administered pure, and just at the end of the meal, so as to be mixed with the meal in the stomach.

We now pass on to the second part of our proposition, namely, that after allaying irritation, which is equivalent to removing the local affection, we should aim at *restoring the weakened tissues of the skin to a normal state of health.*

When the inflamed skin underneath the pellicle of dried and concreted zinc ointment has healed, and a new and firm cuticle has formed, we may commence with the use of very gentle friction with the palm of the hand: if this moderate friction should occasion discharge, a little more zinc ointment will be necessary; of course not so much as at first, and with a different object, namely, that of simply moistening the parched and angry skin. The gentle friction

may be repeated night and morning, and each time, if the skin will bear it, increased a little in force; and after the frictions the tender surface should be dusted over with some harmless powder, such as zinc with starch; starch alone; lycopodium, or simple wheaten flour. Then again, after a few days, a gentle washing with Castile soap may be attempted; at first with tepid water; then with cold water; and, later still, if this progressive method should prove successful, with a mildly stimulating soap, such as of the juniper tar or of carbolic acid. It is important, moreover, that after the ablution is completed, the soap should be rinsed thoroughly off; and that the skin should be thoroughly dried with a soft towel, and that friction during the drying process should be avoided. In the beginning, after the drying of the skin is completed, the tender surface may be dusted over with one of the sheathing powders already mentioned, and, later on, when the skin will bear it, it may be left without any such protective covering, and simply guarded against rough friction and rough usage.

Another hardening process that may be adopted with the view of strengthening the skin is the use of soap with firm friction to the tender part, and subsequently sheathing it with the demulcent ointment. And, again, a very valuable means, the employment of cold water in the form of a douche, projected by a garden syringe when no more convenient apparatus is at hand, or from the spout of a watering-pot or of a jug.

In the transitional and passive periods of eczema, there is one symptom that is extremely troublesome, and that will demand all your ingenuity and care to mitigate, namely, pruritus; and pruritus is associated with a greater or lesser degree of infiltration of the skin, that we must use our best exertion to disperse. In fact, the pruritus, in a majority of instances, is a consequence of the infiltration, and therefore a radical treatment points to the necessity of removing the objective rather than the subjective, of the cause rather than the effect. When pruritus is a neurotic phenomenon, our best palliatives are, hydrocyanic acid and tar; when it depends on dryness and desquamation, the benzoated oxide of zinc ointment or a borax lotion may suffice; but for infiltration in various degrees, stimulant applications are necessary, ranging in strength from the mildest up to the strongest.

As an antipruritic, the lotion of emulsion of bitter almonds, twenty or thirty kernels to six ounces of water; dilute hydrocyanic acid, two drachms; and spirit of wine, fourteen drachms, is an admirable one, cooling and soothing at the same time. Sometimes borax may be made to take the place of the hydrocyanic acid, and the spirit of wine omitted; or the original lotion may be rendered stimulant by the addition of the perchloride of mercury, from one to two grains to the ounce. But this *in limine*, with regard to the use of lotions; however agreeable they may be for the moment, they are all, unless they contain oil or glycerine, apt to leave behind them a certain degree of dryness or perhaps add to the dryness they were intended to mitigate, for dryness of itself may be an incidental cause of pruritus. Hence, conjointly with the lotion, we recommend a smear of the oxide of zinc ointment or one of the milder stimulant ointments; that is to say, that as soon as the lotion is dried, a smear with the ointment should follow.

Borax is an antipruritic when it is combined with oil or glycerine so as to form an emulsion; thus, two drachms of borax, with six of benzoated oil or glycerine, and seven ounces of emulsion of bitter almonds, form an elegant and useful lotion; but glycerine is uncertain in its operation on the integument, and is sometimes, instead of being a sedative, an irritant to the skin. Our antipruritic resources are, as you will perceive, very limited: sometimes a solution of carbonate of soda, two drachms to the eight ounces; or of carbonate of ammonia of the same strength in camphor julep, is very soothing; or, tincture of opium with spirit of wine and camphor mixture; and sometimes we shall derive advantage from a lotion of sulphuret of potassium; or a diluted aconite liniment.

But a more potent antipruritic remedy, although at the same time stimulant, is to be met with in tar, with its hydrocarbon extracts, carbolic acid and creasote. And we have nothing more competent to quell a raging pruritus than

Hebra's famous lotion, composed of oleum picis juniperi,[1] sapo mollis, and alcohol, of each an ounce, diluted more or less considerably with water, a pint or even a half-pint. Carbolic acid and creasote may be combined with distilled vinegar or glycerine, and used in a diluted form, one or two drachms to the half-pint; or with oil in various degrees of concentration.

There are two other morbid conditions which we have now to mention—namely, infiltration giving rise to condensation and thickening, and nervous irritability. In moderate states of infiltration, the milder forms of stimulant remedies will be found sufficient; such as the nitric oxide of mercury ointment, diluted or pure; the citrine ointment, diluted or pure; or the ointments of tar and creasote. These remedies should be either well rubbed into the affected skin morning or night; or, the latter should first of all be well washed with the juniper tar soap, and then the ointments should be used.

The natural history of eczema teaches us that severe pruritus generally precedes the excretion of a copious exudation from the skin, and that the exudation at once relieves the itching; this principle has been taken advantage of by Hebra, for the purpose of furnishing an additional remedy and an additional means of treatment; in a word, a remedy, which by application to the thickened and condensed skin, shall cause the infiltrated fluids to be poured out upon the surface in the same way that nature performs the act in the eczema ichorosum. The remedy which Hebra recommends is the potassa fusa variously diluted, according to the effect that is intended to be produced. Very commonly he uses a solution of equal quantities of caustic potash and water, and we have pursued the same practice with infinite advantage; in fact, it may be truly said that some of the more condensed and hardened forms of eczema will yield to no other means. The solution is painted on the surface by means of a sponge brush; the viscous ichor is seen to ooze forth from the thickened skin even in a few seconds; the bloated tissue-cells are made to disgorge their excessive contents; and in a few minutes, one of the most passive and inveterate forms of the affection is transformed into an active stage, and becomes amenable to the milder principle of treatment applicable to the inflammatory condition of the disease.

If there be one thing that distinguishes eczema more than another, it is nervous irritability. When this state of nervous irritability prevails (and it may be present in various degrees from the slightest up to the most confirmed)—when every known application creates pain or awakens dread and alarm—our only resource, but a most valuable one, is nitrate of silver, in solution, of various strength, from two grains to the ounce up to a drachm, and dissolved, as the case may be, in distilled water or in nitric ether. Such a solution painted over an inflamed and irritable surface, acts like a charm; from bearing nothing the eczema will bear everything; and a dressing with the zinc ointment becomes its greatest solace. But it may happen, and very probably will do so, that the irritability will in the course of time return, in which case the remedy should be repeated; and it may be repeated again and again, and for as long a period as the nervous irritability presents an obstacle to the cure of the eruption.

You will frequently meet with cases that will tempt you to the use of such expressions as dyspeptic eczema, gouty eczema, rheumatismal eczema; such distinctions as these are utterly uncalled for in practice, but they point a moral; they show that in the treatment of such cases you must always have before your eye the dyspeptic, the arthritic, and the rheumatismal tendency or diathesis, and all these we include under the general denomination of assimilative. And, if we suppose such a case, we should begin our treatment with nitro-muriatic acid and a bitter, such as gentian, or calumba, or orange-peel, and a pill, consisting of the compound colocynth extract, blue pill, and extract of henbane, every second or third night, as the case may be; and in the case of an arthritic or rheumatismal complication we should not fail to prescribe a grain of the acetous extract of colchicum every night. In other cases, where more debility of the mucous membrane seemed to be present, or after, by the previous course, we had secured

[1] Pyroligneous oil of juniper; or, huile de Cade; oleum cadinum.

a healthy action of the liver, we know of no remedy so perfect as the citrate of iron and quinine. And in younger persons, with some little feverishness of system, we should prefer small doses of sulphate of magnesia, with sulphate of quinine and sulphuric acid, either in combination with infusion of roses or infusion of orange-peel.

Art. 55.—*On Leichen Planus.*

By Erasmus Wilson, F.R.S.

(*Journal of Cutaneous Medicine*, July.)

"Leichen planus is an eruption of pimples remarkable for their color, their figure, their structure, their habits of isolated and aggregated development, their habitat, their local and chronic character, and for the melasmic stains which they leave behind them when they disappear.

"The *color* of the pimples is a dull crimson-red, more or less vivid, and suffused with a purplish or lilac tinge. It is most characteristic in the recently developed and discrete papules, and in the aggregated form is apt to assume the dusky hue of ordinary chronic affections of the skin. We incline to the belief that it is to this eruption that Hebra has given the name *leichen ruber*, apparently led to that designation by the striking color of the pimples, which contrast very strongly with the unaltered complexion of the skin on which they are developed. Indeed, it is generally the color and appearance of the pimples, without other symptom, that first attracts the attention of the patient to the disorder, and urges him to seek for relief.

"In *figure* the papulæ are flattened, smooth, and depressed on the summit, angular in outline, only slightly elevated, and of a size ranging between one and three lines in diameter. And this peculiarity of figure is so striking that we have selected it as the pathognomonic characteristic of the eruption. The redness may be the first sign to strike the eye, but redness is a phenomenon common to many eruptions of the skin; although, as we have just said, the redness of leichen planus is peculiar; whereas the flatness of the summit of the papulæ is altogether different from anything that is met with in other affections of the skin; and the flatness is rendered more conspicuous by the summit of the papulæ being occupied by a thin, horny, semi-transparent lamina of cuticle, depressed on the surface, and marked in the centre by the aperture of a follicle which represents a sort of *hilum*. It is to this peculiarity of figure that the word *planus* is especially applicable, and this has guided our use of the term.

"In *structure* the papule of leichen planus is a hyperæmia with exudation, surrounding a follicle, and covered by a thin layer of horny transparent cuticle, while the aperture of the follicle and its conical epidermic plug are visible in the centre of the horny plate. The horny covering of the papule is in nowise a scale; it rises and falls with the papule, and neither separates nor exfoliates. When the papule subsides in the course of cure, its horny covering still remains, and disappears by degrees without exfoliation. In one form of the affection, the summit of every pore has its little horny plate, without any papular elevation whatever, and the surface of the skin looks as if it were inlaid with minute spangles or glittering particle of mica, perfectly homogeneous with the rest of the epidermis. This applies, we need hardly say, only to the discrete form of the affection, to the separate papules; in the aggregated form of the disease a new element is introduced, namely, diffused exudation, and in that case, as in every other instance of diffused exudation, exfoliation and desquamation take place, and the horny covering of the papule already described exfoliates with the rest of the cuticle. Whenever this exfoliation occurs, it is interesting to note the continuity of the under surface of the horny plate with the epithelial lining of the follicle. Nevertheless, not even then is the horny plate a "scale" in the proper sense of the term, but merely a portion of exuviated cuticle, cast, like the rest, as a consequence of the temporary suspension of nutrition.

"Leichen planus presents two principal forms of manifestation, *discrete* and *aggregate;* it usually begins as a discrete eruption, appearing as isolated pim-

ples in some one region of the body, or dispersed on various parts. Here and there a few papules are thrown up near to each other, sometimes simultaneously, but more frequently in succession; then the intermediate skin becomes hyperæmic and infiltrated, and a patch results, consisting of an aggregation of papulæ united by an inflamed and infiltrated base. With these aggregated patches the discrete form of the eruption is more or less abundantly commingled; and the patches range in size from half an inch to several inches in diameter, sometimes covering the greater part of the internodial portion of a limb. In the aggregated form of the affection, the interpapular congestion and infiltration assume the most important place in our consideration, the infiltrated skin often rises up to a level with the summit of the papulæ, the papulæ are as it were submerged, and blended in the general exfoliation and desquamation which ensue, and we are driven to seek, in the circumference of the patch or in other regions of the body, isolated papulæ in order to confirm our diagnosis. Nevertheless, with close inspection the figure of the separate papulæ may still be detected in the midst of the patches, and especially that peculiarity of structure already noted, namely, the continuity of the desquamating cuticle with the epithelium of the follicle. Not unfrequently the aggregated patches are circular in figure and of small size, and might very easily be mistaken for lepra vulgaris, the more especially as patches of this kind are apt to grow by the circumference and become depressed in the centre. But in this case the scale of lepra is always absent, and the history of the case, the seat of the eruption, and the presence of isolated papules confirm the diagnosis. At other times the broader patches of the aggregated form of the affection so closely resemble those of dry chronic eczema, that a mistake on the part of those unfamiliar with cutaneous diseases would be perfectly pardonable. We lately saw a patient suffering under the disease, in whom it was named by an experienced dermatologist, 'leichen agrius pruriginosus.'

"The *habitat* of the eruption is also characteristic of the identity of leichen planus; it is pretty constantly met with on the front of the forearm, just above the wrist; in the hollow of the loins; on the lower half of the abdomen; on the hips; around the knees, particularly over the mass of the vastus internus muscle; on the forearms and calves of the legs; and in women, around the waist and in the grooves occasioned by the garters. We have seen it also, but less frequently, on the palm of the hands and sole of the feet; and in two instances on the tongue, the buccal membrane, and the mucous lining of the fauces.

"Leichen planus is essentially *chronic* and *local* in its habits. In twenty-seven out fifty cases examined, the eruption, at the time of application for treatment, had lasted between one month and three; in eleven, between three and six months; in three, between six months and one year; and in six, between one year and seven. In distribution it is generally symmetrical, but occasionally is limited to one side of the body; sometimes occurring on one side in the upper extremity, and on the other in the lower. It has no constitutional symptoms of its own, and frequently prevails with very little constitutional disturbance of any kind.

"The *melasmic* discoloration of those parts of the skin where the eruption has existed, and where it has disappeared, is a characteristic feature which leichen planus possesses, in common with lepra vulgaris, but is not so commonly met with in other affections. These stains are often very remarkable; they give rise to a strange mottling of the skin, and may be accepted as a pathognomonic character when taken in association with the signs already considered.

"The separate papules of leichen planus sometimes enlarge sufficiently to produce a raised border with a depressed centre, and so to constitute a distinct ring; while at other times the ring results from the peripheral elevation of the border of a small patch; or the ring may itself be composed of a chain of papules; in either case a configuration results, which we have termed *leichen planus annulatus*. Sometimes these annuli are small, and round or oval in figure; at other times they are extensive. Occasionally the circles are broken, and only an irregular curved line remains to indicate the border of the vanished patch; in which case the term *leichen planus marginatus* is appropriate.

"Leichen planus scarcely deserves to be classed among the pruritic affections.

The itching is generally very trifling, but in some instances is intolerable. Such cases have suggested the term *leichen planus pruriginosus*, which is then strikingly applicable.

"This eruption is most commonly met with in the adult of middle age; the greatest number falling within the decade between forty and fifty years. Of fifty cases one only occurred under twenty years of age; eight between twenty and thirty; and thirty-nine between thirty and sixty. In reference to sexes, the majority lies on the side of the female, in the proportion of twenty-seven to twenty-three male.

"Leichen planus must be regarded as a rare affection, fifty-one instances only occurring in a register of ten thousand cases of every kind of cutaneous disease. And as this number of cases is spread over a period of five years, extending from 1864 to 1868, we find that for separate years the numbers were: 1864, five cases; 1865, ten cases; 1866, eight cases; 1867, twelve cases; and 1868, twelve cases. These figures, of which the total is forty-seven (the precise date of origin of the remainder not being ascertained), represent the period of commencement of the disease; and a further examination shows that the numbers originating during the first six months of the year were twenty; and the latter six months, twenty-seven; the months the most fruitful in the origin of the affection being July and September, and next to these, October and December.

"It has seemed to us that a common predisposing cause of the disease is the heat of the summer season of the year; that is to say, the depressing consequences produced upon the skin and upon the constitution generally by the effects of heat; and the above figures correspond very fairly with this hypothesis; for although July, of the months enumerated, is the only one which is really hot, yet the effects of the heat may be supposed to be manifested some weeks later, as in September, October, and December.

As an illustration of the ordinary features of this affection, Mr. Wilson appends a short notice of the fifty cases upon which the above general remarks have been founded.

In reference to the *treatment* of leichen planus, our first object, the author writes, should be to regulate the functions of the economy wherever any disorder might be apparent; in the next place we should endeavor to restore the vigor of the system by tonic remedies, such as bitters, quinine, nitromuriatic acid, and chalybeates; and these objects being effected, we may finally have recourse to the tonic-nutritive operation of arsenic. Locally, the most reliable remedy is a solution of the perchloride of mercury in emulsion of bitter almonds, in about the proportion of two grains to an ounce. It is important, before using the latter remedy, to stimulate the eruption by friction; and in the instance of the desquamating confluent patches, to remove as much of the scale and sordes from the surface as possible by means of a thorough saponaceous ablution. Next in efficacy to the mercurial salt is the pentasulphide of lime solution. The eruption is sometimes very rebellious, but in general yields very fairly to treatment.

ART. 56.—*On the Therapeutics of Diseases of the Skin.*

By T. McCALL ANDERSON, M.D., Professor of the Practice of Medicine in Anderson's University, Physician to the Royal Infirmary and to the Dispensary for Skin Diseases, Glasgow.

(*The Lancet*, November 20.)

In the treatment of diseases of the skin, as of most other complaints, it will be found that there are often different ways of arriving at the same goal. In Germany, especially in Vienna, local treatment is principally relied upon, while in England it appears to Dr. Anderson that constitutional treatment is too exclusively resorted to. Some diseases of the skin are best treated by local, others by constitutional treatment, while a few may be cured by either, but the majority of them yield most readily, and are removed most permanently, by a mixed local and constitutional treatment.

A. *Local treatment.*—Local treatment, the author writes, is *especially applicable to eruptions dependent upon local causes*—is, indeed, the only treatment in most cases which is of any use. In scabies, for example—*i. e.*, the disease due to the presence of the itch insect—external treatment suffices for a cure, it being unnecessary, as suggested by Wilson[1] and others, to prescribe sulphur internally. Frequently, however, in cases of eczema for example, an eruption is called forth by a local cause, which would have failed in producing such a result had there not been some constitutional derangement. Such cases require a mixed treatment.

On the other hand, it must be borne in mind that *many eruptions originally dependent upon constitutional causes become ultimately mere diseases of the skin*, the constitutional cause having disappeared, and the eruption being perpetuated owing to the skin having, so to speak, contracted a bad habit. We see this occasionally, for example, in young adults affected with chronic eczema which had begun in infancy; and in such cases a local treatment often yields the most satisfactory results.

We must not, however, lose sight of the fact that *local applications have not a merely local action*—that they are absorbed, and often react on the system at large. In the case of mercury this is admitted and acted upon; in the case of many other drugs it may be admitted in the abstract, but it is seldom taken into account. For instance, it occasionally happens that when a preparation of tar is rubbed firmly over an extensive surface, indications of its absorption are not wanting. The patient may be seized with nausea, vomiting, and diarrhœa, the discharges from the stomach and bowels having a black color, while the urine may have a dark-green or even blackish tint, and emit a tarry odor. It is not usual for all these symptoms to be present in a given case, but the occurrence of any of them is sufficient to show that the remedy has not a mere local action.

Lastly, let me warn you that *local applications are far from uniform in their action;* this being due in part, no doubt, to the state of the general health, the varying sensibility of the skin, and the degree of care with which they are prepared. It is of special importance to insure the careful preparation of ointments; for if they are the least gritty or rancid they are very apt to prove injurious.

If the affected surface is covered with scales or crusts, or débris of any kind, it is almost always desirable to remove them at the outset. This is often necessary for purposes of diagnosis, for otherwise we can only guess at the condition of the parts beneath: it is still more important previous to treatment, for otherwise local applications cannot reach the diseased surface whose condition they are intended to modify. The removal of crusts is a very easy matter, and may be effected in various ways. I usually order the patient to saturate the parts thoroughly with almond oil, and to remove the crusts thus softened with warm water. Should this fail, a poultice of crumb of bread and hot almond oil may be applied at night, and if they do not come away with the poultice in the morning, the part may be lubricated with fresh almond oil, and the crusts removed about half an hour afterwards with the finger-nail, or, if the disease is on hairy parts, with the comb. The removal of scales—in cases of psoriasis for example—is often satisfactorily accomplished by the use of potash applications, to which reference will be made hereafter.

Leaving out of view for the present the exact nature of the eruption (*i. e.*, whether syphilitic, simple, strumous, parasitic, or the like), the first point to decide, before treating an inflammation of the skin, is *whether the eruption is acute or chronic*—that is to say, whether it requires soothing, or will tolerate stimulating applications.

If the surface is acutely inflamed, if it is the seat of a copious eruption of vesicles or pustules, if there is much swelling, and above all, if the patient complains of burning heat or pain rather than of itching, local treatment should either be avoided altogether or soothing applications resorted to. To this, as

---

[1] On Diseases of the Skin. Sixth Edition. pp. 223. London: Churchill, 1867.

to most rules, however, there are a few exceptions. In tinea sycosis (ringworm of the beard), for instance, when the part is greatly swollen and indurated, the seat of numerous pustules, and the source of burning heat and pain, the best treatment consists, not in the use of soothing applications, but in the extraction of the hairs. In this case the treatment is decidedly stimulating; but the stimulation is more than counterbalanced by the soothing effect of removing hairs which are diseased, which are loaded with the spores and tubes of the fungus, and which are acting as foreign bodies.

Soothing applications may take the form either of baths, powders, poultices, ointments, or lotions.

Baths are often serviceable, especially warm baths, to which a little washing soda, a pound of gelatine, or a few handfuls of starch have been added. They are particularly useful in inflammations affecting a large extent of surface; in cases of acute general psoriasis, for example.

Benefit is sometimes derived, too, from *hydropathic treatment*, which I am in the habit of administering thus: "On a firm mattress a sheet of M'Ghie's oil-paper or other material, to prevent the wetting of the mattress, is placed; then a couple of straps are laid across the bed; above this a dry blanket is spread out, and finally, a sheet wrung out of cold water. The patient, in a state of nudity, is made to lie down on this; and it is then wrapped tightly and carefully round him, so that every part of the skin is, if possible, in contact with it, and the blanket is similarly applied. The whole is then kept in position by the two straps, and the patient is covered by two or three blankets thrown loosely over him. In this state he is allowed to remain for two or three hours, during which time he is allowed to drink water *ad libitum* to promote perspiration; and the process is completed by making him jump into a cold bath, and then dress himself and take a sharp walk." This treatment is of value in acute general psoriasis associated with great heat of skin; it is sometimes useful—nay, even curative—in chronic general psoriasis, and relieves irritation of the skin when present in a very marked manner. It may, therefore, be repeated daily, and continued as long as improvement takes place.

The *shower bath* sometimes yields good results. It may even remove the eruption altogether, but it is chiefly of benefit as a palliative for the relief of uneasiness, in severe cases of acute and chronic eczema for example. The water should be finely divided—should fall from the height of about a foot, and the shower should be continued on each occasion from five to fifteen minutes. The bath may be repeated three or four times a day, and the patient should take brisk exercise for half an hour after each.[1]

Before leaving the subject of the treatment of diseases of the skin by water it may be well to caution you to warn your patients against the use of hard or of sea water, which is very apt to bring out, or to aggravate, an existing inflammation. Spring water is generally hard, and therefore to be avoided, while distilled, or rain water, is always to be preferred when it can be had; if not, the water should be boiled so as to cause a deposit of its salts before it is used.

Absorbent powders are sometimes of use when we have to deal with an acute inflammation, such as erysipelas or shingles, and also when there is a tendency to moisture, and when it is desirable to keep the parts dry, as when we have to do with an eczematous eruption implicating portions of skin which are in apposition. Those which I am most in the habit of using are: Powdered starch, zinc, lycopodium, talc, carbonate of magnesia, and carbonate of zinc. These may be combined in various ways, and when burning heat or itching is complained of, a little camphor may be added, as in the following prescription; Powdered starch, six drachms; oxide of zinc, three drachms; cochineal, one grain; powdered camphor, half a drachm; make into a powder. Dusting powder, to be kept in a stoppered bottle.

Poultices are often of value for the relief of pain or tension, or to hasten suppuration when it is impending; but it must never be forgotten that their long-continued use is a source of inflammation. Thus they are apt to call forth

[1] *On Diseases of the Skin, including the Exanthemata.* By Ferdinand Hebra, M.D. Vol. ii. p. 147. Sydenham Society's translation.

eczematous eruptions, especially in persons predisposed thereto; and most of you must be familiar with the fact that their incautious application in the treatment of boils favors the development of others in the vicinity.

Soothing ointments are more universally applicable than any of the preceding, although in some cases, even the most emollient and most carefully prepared, owing to some idiosyncrasy, cannot be tolerated. They are used to soften and favor the removal of crusts and other débris, but, above all, to form a covering for, and protection to, the inflamed parts, and thus to exclude the air. One of the best of these is the benzoated oxide of zinc ointment (so prominently brought before the profession and so justly lauded by Wilson), and which is much improved by the addition of two drachms of spirit of camphor to each ounce of the ointment, being thus rendered softer, and at the same time more cooling. The benzoin in the zinc ointment prevents it from becoming rancid and irritating, while at the same time it imparts it to a certain fragrance.

Another very soothing ointment is one containing bismuth, as in the following mixture: subnitrate of bismuth, half a drachm; rectified spirit, a drachm and a half; simple ointment, six drachms; oil of roses, half a minim. You must avoid using benzoated lard in this prescription, for while the benzoin in the zinc ointment, for reasons which I cannot explain, does not irritate, it is apt to do so in some persons when combined with other medicaments, such as bismuth.

A very good ointment, too, though not so soothing, is made from litharge plaster and olive oil, as follows: litharge plaster, four drachms; best olive oil, three drachms. Apply heat until the plaster is melted, then stir till the mixture cools. This ointment, spread on strips of linen, and applied in the form of a "scultetus," is very soothing, and gives support to the parts in cases of acute eczema of the legs.

Soothing lotions are sometimes of service for the relief of uneasiness; indeed, they are not unfrequently curative—in cases of acute eczema impetiginodes of the face, for example. Those containing lead and soda are amongst the best, and may be used in the following forms: (*a*) Solution of subacetate of lead, one drachm; glycerine, four drachms; distilled water, six ounces. (*b*) Dilute hydrocyanic acid, two drachms; bicarbonate of soda, one drachm; glycerine, four drachms; rose-water, five ounces and a half. The parts should be frequently sponged with these lotions, or pieces of clean rag dipped in them may be kept constantly applied.

Art. 57.—*Hints as to the Study of Skin Diseases: being Abstracts from Lectures.*

By Jonathan Hutchinson, F.R.C.S.

(*London Hospital Reports*, vol. iv.)

The object of these "hints" is to simplify the study of skin diseases by laying down general rules as to their pathology, and reducing the number of the names by which skin diseases are designated. Nearly all skin diseases, Mr. Hutchinson argues, are inflammations of the skin, either acute or chronic, and their modifications are produced by various circumstances connected with their causes, the part of the skin attacked, and the personal condition of the patient. He recommends the student to observe the different forms which these inflammations assume, as papules, vesicles, pustules, scaly crusts, pus crusts, rashes, erythema—congestion, tubercles, bullæ, vesications, &c. In treating of the simplification of the nomenclature, Mr. Hutchinson proposes to abolish the distinction between lepra and psoriasis, since the two are only variations of the same disease, while pityriasis is distinguished from psoriasis, inasmuch as the former is caused merely by exfoliation of epidermic cells. Strophulus, again, should be expunged, since it has no separate existence, but is a mere form of lichen, and the distinction between lupus "exedens" and "non-exedens" is of no value, as the difference depends only upon the nature of the part attacked. With a view, also, to facilitate the labors of the student, Mr. Hutch-

inson proposes to divide skin diseases into those which are common and those which are rare, although, of course, such a division is quite unscientific; and he advises the beginner to make himself acquainted first with the types of the common diseases.

ART. 58.—*A Lecture on the Treatment of Skin Diseases, being an attempt to take a Coup-d'-œil of Cutaneous Pathology and Therapeutics.*

By JONATHAN HUTCHINSON, F.R.C.S.

(*London Hospital Reports*, vol. iv.; and *British and Foreign Medico-Chirurgical Review*, July.)

In order to determine upon the best methods of treatment in skin diseases, it is necessary to divide the pathology of these affections into different sections. Thus one group of skin phenomena are due to the action of specific animal poisons on the blood, as scarlatina, smallpox, &c.; but active interference in such cases is generally contra-indicated, as they run their course in spite of treatment or without it. Another class of skin diseases belongs to the syphilitic division, and in such cases mercury is the proper remedy; or, at any rate, if it is not the remedy, as Mr. Hutchinson remarks, we do not possess one, and we must leave syphilitic maladies, like the exanthems, to disappear spontaneously. Another group which resembles the exanthems, includes erythema and herpes, but is not amenable to special treatment; and a fourth group, of which urticaria is the type, is dependent on the introduction of known poisons, either as drugs, or as articles of food, into the blood. A fifth group is called by Mr. Hutchinson the relapsing constitutional group, and comprises the different kinds of psoriasis, which are cured by arsenic, but are liable to relapse. The last group comprises the skin diseases which are due to the presence of animal or vegetable parasites, pus contagion, or even of lime, sugar, flour, soda, &c. After combating the idea that skin diseases are produced by dirt, debility, or poor living, and proving that the better and more careful classes of society are as subject to these complaints as the poor and the ill-fed, Mr. Hutchinson points out that the cure is not to be found merely in the adoption of hygienic measures, but in the application of medicines. Thus sulphur destroys the itch-insect, mercury destroys the vitality of pus or exudation cells, and the same mineral cures secondary syphilis; the iodides cure tertiary syphilis; arsenic is a remedy for psoriasis and pemphigus, &c. In reference to the use of the last-named drug in medicinal doses, Mr. Hutchinson states that the almost universal testimony of the patients who have taken it is to the effect that it not only cures the disease, but improves instead of injuring the general health.

ART. 59.—*Notes on the Treatment of Diseases of the Skin.*

Under the care of Dr. ROBERT LIVEING, Assistant Physician, Middlesex Hospital.

(*British Medical Journal*, November 13.)

Severe case of Acne Rosacea: enormous Hypertrophy of the Cutaneous Tissues of the Nose; treated by Hebra's method.—A hair-dresser, suffering from "spirit-drinker's nose," and having lost an excellent situation in consequence of this disfigurement, applied for relief in July last. The treatment adopted consisted in dividing the varicose vessels of the part affected, by transverse incisions with a small sharp knife; and, after allowing them to bleed freely for a few minutes, painting the nose with the tincture of the perchloride of iron; this produces contraction of the hypertrophied skin, and tends to obliterate the vessels. About a dozen incisions were made the first time, and a like process was repeated a week later; on both occasions, with very marked benefit. This mode of treatment was then discontinued for a month, and other remedies, such as sulphur ointment, were applied, but with no apparent result

The method by incision was again resumed in September last, and continued up to the present time; the improvement has been very rapid and striking, and to the great satisfaction of the patient, who had previously tried many remedies without avail.

Treatment of Psoriasis by Copaiba and Carbolic Acid.—M. Hardy was the first to direct attention to the use of copaiba in dealing with psoriasis. In ordinary cases, the treatment of this disease by Fowler's solution is so satisfactory, that no one is tempted to use the more unpleasant remedy of copaiba. But, in some obstinate cases, the balsam succeeds where arsenic has failed. Three cases of this kind were treated by Dr. Robert Liveing, during the last summer session. In all three, Fowler's solution had been freely administered for many months, with decided improvement at first, but with subsequent retrogression, and with no improvement whatever for many weeks previous to the discontinuance of the arsenical treatment. In two out of the three cases, the administration of the copaiba draught was followed by rapid disappearance, in about six weeks, of the psoriasis; and, in the third case, it resulted in decided improvement, though not in complete cure.

Seven cases of psoriasis were treated by carbolic acid with more or less success. It was administered either in the form of a pill, made up with extract of liquorice, or in solution; and the doses varied from one to three grains, three times a day. The general conclusion arrived at with regard to the use of this drug as a remedial agent for psoriasis, so far as could be determined from seven cases, was that, though certainly exercising some curative power, it was far inferior in this respect to the preparations of Arsenic.

ART. 60.—*On Some of the More Recent Methods of treating Certain Diseases of the Skin.*[1]

By T. McCALL ANDERSON, M.D. Glasgow.

(*British Medical Journal*, October 2.)

He commenced by referring to the use of a solution of acetate of soda (20 gr. to an ounce of water) as a local application in lupus exedens and in strumous ulceration. He then pointed out the value of the application of lint spread with melted emplastrum hydrargyri in cases of lupus erythematodes. The use of coverings of vulcanized India-rubber in certain cases of eczema, psoriasis, pruritus senilis, prurigo, ichthyosis, callositas, and many obstinate localized eruptions, was next discussed; and Dr. Anderson pointed out that the remedy acted by excluding the air, keeping the parts warm, and at an uniform temperature, and promoting the secretion from the cutaneous glands, which are retained so that they macerate and favor the removal of the epidermis. Lastly, he quoted a number of cases illustrative of the value of the internal administration of tar and carbolic acid, especially of the latter (which he prescribed in doses of from three to ten grains, thrice daily), in the treatment of certain cases of chronic eczema and of psoriasis.

ART. 61.—*On Contagious Impetigo.*

By TILBURY FOX, M.D. Lond., Physician to the Skin Department in University College Hospital.

(*Journal of Cutaneous Medicine*, October.)

Dr. Fox's reason for pressing this disease upon the notice of the profession is the fact that, when once recognized, it is readily cured by local means; but when regarded as a pustular eczema—an ordinary impetigo—and treated as such, it may and does last mostly for a long time, not yielding to the remedies generally employed for eczema and its allies.

---

[1] Abstract of a paper read at the thirty-seventh annual meeting of the British Medical Association

"*Definition.*—Broadly described, the disease is often epidemic, varying in severity both as regards general and local manifestations at different times. It is pyrexial, markedly uniform as to its eruption, which is at first coarsely vesicular, the vesicles, or minute bullæ, being distinct and separate, and quickly enlarging into flattened bullæ, which are replaced by flat yellow crusts. The mucous membranes are not unfrequently implicated, vesico-pustules developing upon them, especially those of the eye. The disease tends to run a definite course. It is contagious, the secretion furnished by the eruption being capable by inoculation of producing the disease in unaffected and healthy subjects.

"*Clinical History.*—I. *The Attacked.*—The disease is mostly found amongst the lower orders, and almost always the children—those, indeed, who attend as out-patients at hospitals and dispensaries; but I have seen it in children of best position. The cleanliness and care exercised with the latter, however, suffices to prevent self-inoculation (by which the disease is so frequently spread and prolonged). The disease as a rule in the better classes is therefore much more definite in its course, whereas amongst the poorer folk the overcrowding and huddling together of their children sufficiently account for the inter-transmission and long continuance of the disease. But even with these it is not the specially unhealthy that are attacked; the well-nourished, those of whom mothers say, 'He has never had a day's illness in his life,' and who are 'as hale and hearty as a child can be,' are frequently affected. I lay great stress on the special opportunities and the absence of preventives of contagion amongst the lower orders as influencing the occurrence of the disease.

"II. *The Pyrexia* may be very severe: I have seen it accompanied by convulsions in infants. When the disease is very prevalent, there is generally smart fever; ordinarily the child looks ill, pale, languid, and has 'burning heats' or 'cold chills' at night. It is certain that the eruption appears subsequently to disturbance of the system at large.

"III. In a day or two *the eruption* shows itself. The face, or the top and back of the head, or the seat of recent vaccination, is the most usual spot at which it makes its first appearance. Mothers agree with peculiar unanimity in describing the spots in the earliest stage as 'little watery heads,' that speedily enlarge into little 'bladders.' Many call attention spontaneously to the similarity of the eruption to 'pock,' and to vaccinia.' Sometimes the hands are first affected, and the part looks 'as if burnt.' In other rarer instances the disease shows itself at the seat of 'cuts' or 'scratches.' I have seen it engrafted upon the bite given by an affected boy to his little brother. But wherever it first shows itself it extends to other parts, and in no little degree in consequence of the conveyance of the secretion from part to part (head to hand, for instance) in the act of scratching (auto-inoculation), which readily, as before observed, masks the otherwise pretty definite cause of the disease. The vesicles, or phlyktænæ, as they may be termed, are usually isolated, but on the face they may, in consequence of their number, run together; the real character of the eruption, however, is always seen at the edge. In five or six days the bullæ, or phlyktænæ, reach the size of a three, four, or sixpenny piece, and if unruptured, in some cases a large size may be attained; but in all cases the centre is depressed, umbilicated, and the contents become opaque. The secretion examined microscopically presents numerous inflammatory, and at a later stage pus cells and homogeneous material (lymph).

"4. *Scabs* commence to form two or three days after the appearance of the vesicles, They are characteristic, being of the size of the area of the bullæ, flat, straw-colored, dry, granular-looking, and appearing 'as if stuck on.' The disease is, in fact, superficial; in the slighter forms there is no inflammatory areola, but in the severer cases this is not so; there is a zone of redness; when removed, beneath are seen little superficial ulcerations filled up by viscous secretion, 'gummy-like,' not truly pustular, and at the bottom is often a little *bouton* of lymph. There is no unpleasant or offensive smell about the eruption, the scabs are not dark; there are no pediculi. The disease is characterized by a certain amount of activity and vigor which remove it from the category of 'asthenic' or 'aplastic' affections, and this is important to recollect when a comparison is instituted between it and ordinary purulent eczema, or it is suggested

that the inoculability of the secretion is due to its formation in the tissue of a cachectic subject. On the head the spots have the same characters as those elsewhere, but the hair is somewhat involved in the circular-crusted flattened patches which are *isolated*. The negative evidence is important. The uniform character of the eruption supposes the absence of papules during the height or progress of the disease, and this is so, and bears an important relation to the distinction between this disease and ecthymatous scabies, with which I believe it has been and is very frequently confounded. I have said the mucous surfaces may be affected, small ulcers on the conjunctiva and the nostrils may follow the appearance of an eruption identical in nature with that seen on the skin. A child so affected may seem to be suffering from ordinary purulent ophthalmia. The subjective symptoms of the disease are negative; itching only occurs at the outset, and then it is slight.

"5. *Complications.*—The disease may occur in conjunction with many other forms of cutaneous mischief—with scabies, eczema, and eczema impetiginodes particularly. The latter is well seen in the plate 'Porrigo' of the New Sydenham Society.

"*Diagnosis.*—The direct guides to the disease are its apparently epidemic character, in many cases; its attacking children, perhaps several in a family; the antecedent pyrexial affection of the general system, clearly of acute production; the presence of the isolated, flattened, light-colored 'stuck on' scabs, replacing flattened bullæ which have developed from well-formed vesicles; *the uniformity* of the eruption; the eminently contagious nature, and the inoculability of the secretion; the absence of pain and any itching of consequence save occasionally at the outset.

"There are four or five affections which are likely to be confounded with 'contagious impetigo;' they are eczema, pemphigus, ecthyma, pustular scabies, and impetigo sparsa. The discrete character of the eruption, the peculiar crusting and the facility of cure, at once distinguish it from eczema, nor should any difficulty occur in regard to pemphigus, comparatively a rare occurrence, with its persistent and distended blebs with watery contents; the non-contagiousness, together with the absence of the peculiar scabs suffice. Ecthyma is primarily a pustular disease, and, when uncomplicated, is seen mostly in adults; the tissues of the skin are more profoundly affected; there is much induration and redness; it is not contagious, but is accompanied by pain, and possesses large, hard, dark, and inherent scabs. In regard to pustular scabies more difficulty exists; where several members of a family are affected by contagious impetigo, the thing may look very much like scabies. But the one main feature of the impetigo is its *uniform* character, contrasting strongly with the *multiformity* of scabies, which exhibits papules, vesicles characteristic acarian furrows, is very itchy at night, which is not the case with the other disease, and if ecthymatous, has dark crusts, altogether different from those of the contagious impetigo,—points of distinction sufficiently clear, even when the seat of mischief is, as is often the case with both diseases, about the feet. Then the impetigo affects the face and head markedly, has such peculiar crusts, and a bullous origin and none of the subjective phenomena of scabies, which, moreover, in its ecthymatous variety furnishes plenty of evidence of acari in the crusts formed on the surface, if these are softened up and examined microscopically. Inoculation, too, is another test. Impetigo sparsa is an affair which somewhat bewilders me: if by it is meant a small patch of eczema impetiginodes, then I understand what is meant, but not otherwise. My belief is that under this term has been included, amongst others, the disease which I am now discussing, in entire ignorance of its real nature. Such is a mere sketch of the clinical history of the disease. Viewing it as a whole, it is impossible not to recognize some analogy between its more marked forms and such a disease as varicella, but I forbear to enter upon this topic here."

Dr. Fox next mentions some additional evidence in favor of the inoculability of the disease, and appends a selected series of cases which have come under his notice during the last two or three years.

Treatment.—Dr. Fox never finds any difficulty in curing the cases, mainly by the use of a weak ammonio-chloride of mercury ointment applied to the ulcera-

tion beneath the scabs. It certainly alters the character of the secretion, which is no longer inoculable, and disappears rapidly. He regards impetigo contagiosa as one of the most satisfactory diseases to treat, on this account. With regard to internal remedies, they avail little. Occasionally salines are needed at the outset, and tonics in weakly and strumous subjects; but as a rule the ointment named suffices for all purposes.

ART. 62.—*On the Nature and Therapeutics of Lupus Erythematosus.* By Dr. MORITZ KOHN, of Vienna.

(*Archiv für Dermatologie und Syphilis*, i. 1; *Schmidt's Jahrbücher*, No. 6.)

The lupus erythematosus of Cazenave forms on the skin round patches varying from the size of a penny or shilling piece to that of the flattened hand, the margins of which are linear, of a bright red color, and elevated, and the central parts occupied by a thin dirty yellow crust, or a dirty white mass of epidermic scales or a depressed brilliant white scar. The margin of each patch is tolerably firm to the touch, sharply defined, and either covered by yellowish scales and crusts, or punctated as if it had been pricked or eroded.

These patches are formed from tubercles, which vary from the size of a pin's head to that of a lentil, and are of an intensely red color, but slightly elevated, and, at their centres, either depressed or covered over by a closely adherent layer of scaly epidermis. Whilst the elevated margin is extending peripherally and the patch is increasing in size, the depression and scarred appearance at the centre become more distinct, or the original central scab becomes loose and allows itself to be readily detached, and carries on its under surface thin plugs of epidermis which correspond to dilated follicles.

Through extensive peripheral spreading, and also through fusion, are formed large patches of a roundish or irregularly winding form.

It is rare for the small primary tubercles to become arrested in their development, and to persist forming more or less extensive and thick aggregations.

Lupus erythematosus on the hairy scalp is followed by a total loss of hair over the extent of the diseased region. Although single patches of lupus may undergo retrograde metamorphosis and, at isolated spots, complete involution, the whole process of the disease may last with its relapses for months and years. Even a complete spontaneous cure—a rare event and always a very tardy one—leaves behind a persistent disfigurement, which consists in a more or less extensive cicatrix with a border of pigment, or a thin, dry, and parchment-like patch of integument.

Lupus erythematosus is usually seated upon some part of the face, and on the cheeks or the bridge of the nose. It may also appear on the eyelids, pinna of the ear, the lips, the hairy scalp, the nape of the neck, the arms, hands, fingers, and toes. It is rarely observed on the forearm and on the trunk, and has never been seen between the waist and the toes.

The nature and causes of lupus erythematosus are for the most part quite obscure: whether scrofula, poorness of blood, and faulty nutrition, which conditions frequently accompany the disease both in young and in old patients, have any influence upon it must remain questionable. Even well nourished and strong subjects may be affected. The youngest patient was five years of age.

With regard to the local changes, Hebra showed that the starting-point of lupus erythematosus in some cases was the intense seborrhœa which occasionally comes out on the face after variola; the immediate periphery of the diseased follicle being afterwards directly converted into a patch of lupus. On this account Hebra at first called the disease seborrhœa congestiva, but, at a later date, adopted the name given by Cazenave. According to Hebra and some of his scholars in Vienna, lupus erythematosus commences with inflammation and cell formation, at first about the sebaceous glands, and afterwards of the whole follicle and the adjacent cutis. This process, in the majority of cases, is a superficial one, and remains so, taking place in the uppermost layers of the corium. Only at times does the disease attack the subcutaneous cellular tissue. Then

the primary patches of lupus present themselves in the form of doughy pale knots in the integument, which vary from the size of a pea to that of a filbert.

According to Kohn's experience no recovery is to be expected from the sole use of internel remedies, as arsenic, preparation of iron, cod-liver oil, and iodine. These agents, however, are often required for the sake of the general condition of the patient, The local treatment is the chief point.

Of the local agents that have been most useful there is none that can prevent a relapse. Each agent may give undeniably brilliant results in one case, and fail altogether in the next. It is necessary to give each remedy a fair trial, and not to have recourse to another before the effects of the first have been clearly observed. Some remedies cannot be applied alone with any good result, but must be used either in combination or ultimately with others. Almost all the local agents belong to the caustics, and care must be taken in using them that they do not produce harder and more permanent cicatrices than those left after spontaneous cure.

The only non-caustic agent used by Kohn, and with tolerably rapid results, is mercurial plaster. The lupous patches are covered by this, which is changed at the end of twenty-four hours. When the disease is extensive it is well, Kohn thinks, in order to arrest salivation, to alternate the mercurial plaster with soapy applications.

Among the caustic agents the alkalies occupy the first place: these are the alcoholic solution of potash soap—the spiritus saponatus kalinus of Hebra, green soap, a concentrated solution of potash (ʒj to ʒij of water), and pure liquid ammonia. After the alkalies may be classed the caustic acids, which act superficially; these are, carbolic and diluted acetic and hydrochloric acids. The treatment with carbolic acid, whether crystallized or as a pale fluid, is very long, because the eschar produced by the action remains attached for some time. The acid acts rapidly upon healthy surrounding integument, and causes great pain. The action of the acetic and hydrochloric acids is milder and less powerful.

The very painful agent, nitric acid, should be reserved for the rare cases of deep-seated lupus, and even those cannot be frequently repeated. Sometimes the lupus attacks the inflammatory circle produced by the cauterization, so that the disease extends at the periphery of the patch, whilst in the centre it is level. Chromic acid, which attacks the diseased to a greater extent than the healthy spots, forms an eschar which adheres for a long time and results in a great loss of substance.

Iodine (tincture of iodine and Hebra's combination of iodine and tincture) and the different preparations of tar agree in their action and results.

If the caustic agents which act superficially have been applied in cases without good results, Hebra's arsenical paste is to be recommended (arsen. alb. gr. v; cinnab. sativæ gr. xv; ung. emoll. ʒij). This is spread on lint and applied to the diseased part for three days until a dark-blue eschar has been formed. After twenty-four hours the application is to be renewed. Severe pains commence in the course of eight or twelve hours, when the whole thickness of the cutis has been burnt through. This paste cauterizes only the diseased spots. The resulting cicatrices are deeper than those produced after spontaneous cure or the application of the spiritus saponatus kalinus. The effect, however, is always almost certain.

Art. 63.—*On the Prognosis and Treatment of Psoriasis.*

By Prof. Hardy.

(*Annales de Dermatologie et de Syphilographie*, No. 6.)

The following are extracts from the clinical lecture reported by M. Babaut:—

"What now, gentlemen, is the prognosis of psoriasis? It is not a severe disease—it does not compromise the health of those attacked by it, but it is characterized by being very rebellious and incapable of absolute cure. It may, indeed, be removed; the patients are rendered clean, and most frequently, not

a trace nor a scar remains, but the disease relapses very readily: one should not then be surprised to see it appear some months, or some years, after its first disappearance; then the number of relapses goes on increasing, and the intervals between the attacks become shorter. Some persons who had been affected with psoriasis have gone ten years without a fresh attack of the disease. These, however, are rare cases. Generally the disease reappears after from six to fifteen months; the longer the time it takes in disappearing, the shorter is the time of the interval. The seasons seem to have an influence upon the return of the disease; with some patients it appears again at the commencement of winter, and with others at a different period of the year. I have had occasion to see a patient in whom, for fourteen years, psoriasis has appeared in the month of March, and disappeared in September. Psoriasis presents some interest with regard to heredicity. This is a difficult question to resolve with hospital patients, who most frequently are ignorant of the health of their parents; but in private practice it is not a rare occurrence to see infants born of parents affected with psoriasis present the disease themselves at a later period: one frequently sees several members of a single family affected with this disease. We have here the transmission of psoriasis from parents to children, as we have a transmission of cancer and scrofula.

"The circumstance of heredicity, and of almost certain relapse, would lead one to conclude that psoriasis depends upon a general constitutional disposition; and, in fact, I consider it to belong to the class of dartrous affections, cutaneous diseases characterized chiefly by chronicity of progress, by relapses, by a tendency to extension, by the existence of itching, and by hereditary transmission.

"What now, gentlemen, is the treatment of this affection? It consists in several measures, which I will point out to you. I should inform you, in the first place, that no dependence ought to be placed upon bitters, or tonics, or purgatives; the compounds of iodine and mercury are equally powerless; but the most potent of medicinal agents, and the one most used for psoriasis, is arsenic, which I generally administer in solution.

"I administer to patients gradually one or two teaspoonfuls of the following, in half a glass of water, or barley-water:—

Distilled water	300 grammes.
Arseniate of soda	10 centigrammes.

Each spoonful represents five milligrammes of the medicinal agent; by carrying the dose to two spoonfuls per diem, one administers a centigramme. Arsenic, in the state of arseniate of soda, or of iron, may also be administered in the form of pills; but with pills one is less sure of the quantity which the patient takes each day, as they are not always uniform in composition; so I give the preference to the liquid form. With the administration of this agent, one generally observes the redness of the skin to become more intense; the scales are effaced, and the prominent parts become reduced, then the disease gradually disappears without leaving any cicatrix.

"Besides arsenic, there is another therapeutical agent, the importance of which is not so great, but concerning which I wish to speak to you a few words. I allude to copaiba. I was led to make use of this medicine under the following circumstances: I had in one of my wards a patient who was affected at the same time with psoriasis and gonorrhœa. Wishing to free the man first of the latter affection before undertaking the treatment of the cutaneous eruption, I administered to him copaiba. To my great astonishment, I noticed that the psoriasis diminished with the urethral discharge; copaiba, the action of which upon the skin is proved by the special eruptions which it produces, had brought about a happy modification of the psoriasis; and since that period I have introduced with advantage copaiba into the treatment of the disease. I administer it, with an opiate, in doses of three or four grammes in the day. Latterly I have tried in the treatment of psoriasis a substance which approaches very closely in its chemical character to arsenic, and which has already been tried in England; I allude to phosphorus. I have administered phosphorus

to some patients affected with psoriasis by making them take every day a spoonful of the following oil:—

Oil of sweet almonds	150 grammes.
Phosphorus	10 centigrammes.

Each spoonful represents nearly two milligrammes of phosphorus. The original dose is increased progressively until my patients take one centigramme of phosphorus daily. Under this treatment I have seen the spots get pale, the prominences disappear, and the scales fall off; but I have never yet observed a complete cure with this agent alone, to which it has always been necessary in my practice to add some external treatment.

"External medication, which is very important in cases of psoriasis, consists in the employment of starch or bran baths, of vapor baths, and of certain ointments. I generally make use of unirritating ointments, which enable me to remove the scales; those which are the most successful are ointments with a base of tar, and which contain one-fourth, one-third, or one-half of this agent. By the side of this ointment may be placed another, which we make much use of in the Hôpital Saint-Louis—it is one which contains oil of cade or juniper tar. This is its usual favorite:—

Lard	60 grammes.
Oil of cade	10 or 15 grammes.

With the aid of these ointments one sees the eruption diminish, and the practitioner may believe in their exclusive utility; but the internal treatment is of great assistance, and, according to my experience, seems to put off relapses.

"These are not the only ointments used. I will mention in addition those containing sulphur and mercury—nitrate of mercury, prot-iodide of mercury, biniodide of mercury. M. Lutz, the *pharmacien* to our hospital, has lately suggested an ointment of sulphocyanide of mercury, in the proportion of one gramme of this substance to thirty grammes of lard. Finally, I will mention the ointment of nitric acid, which I often employ with advantage (lard, thirty grammes, nitric acid from ten to twenty drops); and I will name also the tincture of iodine, with which the spots may be touched. To these two medications, the external and internal, it is fitting to join the strict hygienic treatment which we carry out in all the varieties of dartrous diseases. High-seasoned food, shell-fish, fish, pork, game, salted foods of all kinds, spiced sauces, pure wine, coffee, and alcoholic drinks must be carefully proscribed. The patient should also be recommended to avoid excessive labor, and principally late hours, and, if it be possible, vexation and intense emotion, as the latter circumstances have often seemed to exert a great influence upon the production of the disease. It is by submitting to these hygienic rules that one may accelerate cure, and, moreover, be enabled to put off relapses."

Art. 64.—*On the Morbid Anatomy of Elephantiasis Græcorum.*

By W. Moxon, M.D., F.R.C.P., Assistant Physician at Guy's Hospital.

(*Guy's Hospital Reports*, vol. xiv.; and *British and Foreign Med.-Chir. Review*, October.)

In a previous volume of the Reports is an account of this case of elephantiasis Græcorum, by Dr. Owen Rees, and Dr. Moxon made a post-mortem examination of the patient, who died at the beginning of the year 1868. The immediate cause of death was amyloid or lardaceous disease of the alimentary canal, liver, kidneys, and spleen, with marasmus in the most extreme degree. Dr. Moxon is not aware that amyloid disease has before been noticed as occurring in leprosy. Contrary to expectation, the nerves were found quite natural, and some nodules, felt during life, and supposed to have their seat in the nerves, were found to belong to the veins. On the whole, Dr. Moxon observes, this case shows the excessive slowness with which leprosy advances to a fatal ter-

mination, and indeed, if the disease lulled more speedily, it would lose half of its horrors, which it owes to the tedious or protracted suffering it entails on its victims.

Art. 65.—*On Ichthyosis.*

By M. Lailler.

(*Annales de Dermatologie et de Syphilographie.*)

Between the normal condition of the skin and the deformity known as horny ichthyosis there exists a whole series of intermediary conditions, to which may be given the name of Xeroderma.

Between the xeroderma ichthyodes of the English, and the skin affection which is called ichthyosis sebacea, there is a difference in nature and seat; the first is a deviation of the *epidemic secretion*, the second is a deviation of the *sebaceous secretion.*

Xeroderma may be accidental and curable. It is, however, most frequently hereditary and congenital, and resembles ichthyosis in its incurability.

Internal treatment seems to be powerless.

Inunctions of preparations with a glycerine basis produce considerable but temporary amelioration; it is not unreasonable, however, to hope for a decided cure from a very prolonged employment of them.

Art. 66.—*Effects of Carbolic Acid on the Economy, on Vegetable Parasites, and Diseases of the Skin.*

By Dr. Neumann, of Vienna.

(*The Lancet*, September 18.)

Dr. Neumann, of Vienna, has published in Dr. Pick's *Archiv für Dermatologie und Syphilis*, Part III. (1869), an excellent article on the above subject. The author experimented largely on animals and plants, and has used the acid in a certain number of cases, the principal of which he relates. Dr. Neumann sums up as follows: Carbolic acid is an energetic poison, which acts directly on the nervous system; its external or internal use may cause death. It acts three times more quickly when injected under the skin than when taken into the stomach. The acid is used in scaly skin diseases, but especially in their early stage; it may be used as a caustic in chronic inflammations, and in parasitic affections. The acid, finally, possesses the power of arresting the germination of the lower vegetable organisms; but the solutions must for this purpose be stronger than has been advised—viz., 1 in 500 or 300, and not 1 in 1000.

Art. 67.—*Cases of Tinea Circinata (Ringworm of the Surface).*

Under the care of Dr. Tilbury Fox, of University College Hospital.

(*The Lancet*, August 28.)

A more constant use of the microscope in the diagnosis of cutaneous disease would land the practitioner clear of many errors, especially in reference to the discrimination of the exact nature and cause of eruptions that are mainly characterized, so far as naked-eye appearances are concerned, by "furfuraceous desquamation. We are led to this remark by noticing how much stress is laid in diagnosis upon the microscopic appearances of scales, crusts, and discharges in disease amongst the out-patients in the Skin Department of University College Hospital: whether, for instance, these be composed merely of epithelial, fatty, blastematous, or fungoid elements, or an intermingling of these morbid products in various proportions. The appearances presented in certain cases of lepra, chronic eczema, herpes circinatus, seborrhœa, tinea circinata, &c., which approximate in external aspect, are often such—in the absence or presence,

for instance, of true inflammatory products—as to lead to the individual recognition of these diseases.

There is one particular class of cases in which the presence and influence of fungi, according to Dr. Tilbury Fox, is almost entirely, if not quite, overlooked. It is that—and few practitioners in private practice, and fewer still amongst those who have charge of schools, can be unacquainted with it—in which the eruption is very slightly raised, slightly rough to the feel, and slightly scaly or "scurfy," the eruption occurring in patches of a generally circular form of varying size, about the face and neck of children especially, and running a chronic course. Patches may crop up from time to time about the body, and there may be well-marked patches of "ringworm" elsewhere. The disease to which reference is now made is usually called "dry eczema," or "pityriasis;" but Dr. Fox has long declared it to be parasitic, and included it under the term tinea circinata, which has now been adopted by the College of Physicians in its new nomenclature as the term for ringworm of the general surface of the body. Several children of the same family may be brought at the same time suffering from the so-called "dry eczema."

There is another unusual form of tinea circinata in which the parasitic growth produces considerable irritation, and patches covered by slight crusts, and looking much like eczema are formed. These patches are large, circular, well-defined, and itch a good deal. Hence tinea circinata varies according to the degree of irritation produced by the parasitic growth. Simple (non-parasitic) herpes circinatus is, of course, a disease of short and definite duration.

The fungi in many cases of tinea circinata are readily missed if the examination be hurried, if any but the thinnest portions of scale be taken, and if the tissues under the microscope be not rendered transparent with reagents.

The following are the features which point to the parasitic nature of the slighter form of tinea circinata:—

1. It is a primary form of disease; pityriasis is often secondary to eczema, &c.
2. The form is circular.
3. Two or more members of a family or school are affected.
4. Parasitic elements are detectable together with the products of slight inflammation.
5. The disease is not of short and definite duration, but chronic, and may last a long time.
6. There may be on other parts of the body well-marked circular patches of tinea circinata, or on the head tinea tonsurans.

SEC. III.—FORENSIC MEDICINE.

ART. 68.—*On Homicidal and Suicidal Wounds of the Throat.*

By ALFRED S. TAYLOR, M.D., F.R.S.

(*Guy's Hospital Reports*, vol. xiv.; and *British and Foreign Medico-Chirurgical Review*, October.)

This paper is founded upon and explanatory of the case of a man named Wiggins, who was convicted and executed for the murder of a woman with whom he lived. On the part of the prosecution it was suggested that he cut the woman's throat in the middle of the night, and then in the morning, when the matter could no longer be concealed, he made a slight cut into his own throat for the purpose of averting suspicion. For the defence it was maintained, as was stated all through by the prisoner, that the deceased first tried to cut the man's throat, and then, after the man had escaped and raised an alarm, cut her own. Dr. Taylor's paper examines carefully all the medical facts of the case, discusses the power of locomotion or struggling after wounds of the trachea, the common carotid artery, and the internal jugular vein; and also treats of the question as to the time when cadaveric rigidity sets in. If the man's account was true, the

body became stiff almost immediately after the death, for all the witnesses agreed as to the fact of the rigidity; but, inasmuch as numerous observations have shown that this rigidity does not supervene in general until about four hours after death, the wound must have been inflicted long before the alarm raised by the prisoner. The blood, also, on the deceased's shift was dry, as was also that on some parts of the prisoner's dress, another fact inconsistent with the story told by the latter, which, moreover, was told at different times, the relation being inconsistent with the medical and other facts of the case, and inconsistent with itself when the story told at one time was compared with that told at another. Dr. Taylor's conclusions all point to the guilt of the prisoner.

ART. 69.—*Galvanism as an Antidote in Poisoning by Gelseminum Sempervirens.*

By J. T. MAIN, M.D.

(*Boston Med. and Surg. Journal*, April 15; and *American Journal of the Medical Sciences*, July.)

Dr. J. T. Main, of Unity, Maine, makes the following interesting statement:

"In the summer of 1866, I took, through mistake, one drachm of fluid extract of gelseminum sempervirens, and immediately started to see a patient suffering from paralysis. The patient resided some eight miles off, and before arriving I became nearly blind. Control over the upper eyelid was almost entirely lost. The flexor muscles of the hands and arms were paralyzed, while the extensors were nearly so. Sensation in hands and arms blunted, but not in proportion to loss of motion. My speech was somewhat affected. A very disagreeable sensation of the head was felt even before the muscles came under the influence of the drug, but my mind was quite clear.

"In this condition I arrived at the house of my patient, and as I was incapable of using my hands (my legs did not suffer nearly as much), I directed the nurse to apply the galvanic battery to the patient, and as she was about putting the instrument aside, I asked her to apply the poles to my hands, which she did, and I was instantly relieved. The relief received was not only instantaneous, but perfect and permanent.

"I have tried the galvanic battery by way of experiment several times since, upon those who were pretty well under the influence of gleseminum, and with like results."

ART. 70.—*On Poisoning by Phosphorus.*

By Professor RAMERI BELLINI.

(*Sperimentale ed Annali di Chimica applicata alla Medicina*, May; and *British and Foreign Med.-Chirurgical Review*, October.)

Bellini contributes a long paper on this subject. He comes to the conclusion respecting antidotes, specially chemical antidotes, that nitrate and chloride of silver are the most promising. Phosphorus in the presence of nitric acid and oxide of silver is acidified at the cost of the oxygen, and produces a phosphate of silver, a compound not influenced by weak acids, nor by the acids of the stomach. He reckons that for every centigramme of phosphorus three centigrammes of nitrate of silver are required. Hence, for an adult who has swallowed a poisonous dose of phosphorus (say five centigrammes) six centigrammes of nitrate of silver would be demanded, a dose of the silver salt which has been tolerated.

ART. 71.—*On Poisoning by Phosphorus. Oil of Turpentine the Antidote.*

By Dr. T. E. JENKINS, of Louisville, Ky.

(*The Medical and Surgical Reporter*, May 29; and *British and Foreign Medico-Chirurgical Review*, October.)

Dr. Jenkins observes that poisoning by phosphorus has become as frequent, of late days, as poisoning by means of arsenic in former times; indeed, the former has taken the place of the latter as the popular toxic agent at present. M. A. Tardieu informs us that in criminal statistics phosphorus takes the first rank as the fashionable poison. This substitution of phosphorus for arsenic is, doubtless, brought about by the widespread use of chemical matches, and of phosphorus paste for the destruction of rats, mice, and other noxious vermin, and it is the more dangerous, since, up to this time, no real antidote for the poison has been known.

In view of this state of things, M. Personne has made a number of experiments upon dogs, to discover (if possible) some agent with which to combat the deadly effect of this substance. Among other substances, he tried the oil of turpentine, and the sequel will show the success which has followed his trials. He made three series of experiments, using five healthy dogs in each.

The phosphorus and the oil were introduced by means of a stomach-tube, and the dose for the former was from one to three decigrammes (one and a half to four and a half grains) to each animal, given in the state of match-ends in some cases; in the others the phosphorus was administered in solution in oil of sweet almonds emulsified by means of the yolk of egg. The poison was thus put into a condition most favorable for absorption, and for producing its toxic effect.

The oil of turpentine was employed in the dose of ten grammes (154 grains) emulsified in like manner, and the experiments continued from the 13th of January to the 27th of February last.

The following results were obtained: The dogs submitted to the action of phosphorus alone all died; those to which the poison was given, and its injection followed in from one to two hours by the antidote, showed the severe symptoms, and some were very sick, but one only succumbed; the four survivors recovered perfect health, and were kept from ten to fifteen days, to be watched if anything untoward would supervene. In series No. 3 the animals were made to receive the poison, and immediately afterwards the antidote; one of these died; the four others suffered a slight indisposition only, and were kept up from ten days to a month, without presenting any alteration in their usual health.

All those to which no antidote was given died; eight of the ten to which the turpentine was administered suffered no serious inconvenience.

The deaths which took place in the second and third series occurred on the 22d of January, when the temperature fell below freezing-point, and the water to which the animals had access was congealed. This circumstance should not be lost sight of in attempting to account for the death of the two dogs which had taken the antidote. These dogs also were subjected to the maximum dose of the poison, with no increase in the dose of the antidote.

In explaining the action of the antidote in combating the toxic effect of the poison, the subject presents two points of the greatest interest. The first is the *modus operandi* of the poison and of the antidote; the second, the philosophical reasoning which, doubtless, led to the employment of the antidote.

Apart from the powerfully irritant action on the mucous lining of the stomach of the acid produced by the oxidation of the phosphorus while still lying unabsorbed in the cavity of that organ, this poison possesses an inherent deadly effect upon the blood itself, when taken into the circulation. Absorbed phosphorus kills by preventing proper hæmatosis; it engages the oxygen, and does not allow it to perform its usual functions of aërating the blood, of converting chyle and venous blood into the vitalized fluid. When this takes place rapidly,

there is prompt death by asphyxia; when it occurs slowly, it gives rise to fatty degeneration, the result of faulty hæmatosis. The disposition to, and accumulation of, fat in individuals using phosphorus in minute doses as a medicine was some time ago announced as a fact. Then the question whether the increase of fatty deposits be a normal process or a pathological one would be pertinent. If it be a fatty degeneration in the sense it is generally understood, may we not ascribe the apparent improvement frequently observed in emaciated patients after a course of the hypophosphites (easily oxidizable compounds) rather to the change of one pathological condition for another, or the superinduction of a new pathological state?

It has been long known that phosphorus, under ordinary circumstances, is slowly oxidized in the air, giving rise to a sensible increase of temperature, with perceptible evolution of light. The phosphorus is also found to be covered with a film of acid, resulting from its oxidization. When, however, the atmosphere surrounding the phosphorus contains a minute proportion, the 1.4444 or more of its volume, of the vapor of the oil of turpentine, this slow oxidization is suspended until the surrounding temperature of the phosphorus is increased; then the amount of the vapor of turpentine must be augmented to produce the same effect. The observations were made between 66° Fahr. and 200° Fahr., by Graham, of London, prior to 1850.

Oil of turpentine or its vapor would then serve to prevent the absorption of oxygen by the phosphorus in the blood, in the same way as it prevents the slow combustion at moderate temperatures in air; thus the poison is stript of its property of depriving the blood of its essential, oxygen, and time is allowed for the elimination of the phosphorus without causing serious disorder in the system.

It is here suggested that other bodies than the oil of turpentine may be employed as antidotes for phosphorus upon the same principle; for we know that at the ordinary temperature, 60° Fahr., and even at 150° Fahr., 1-150 of the vapor of ether, 1-450 of olefiant gas, and 1-1820 of the vapor of petroleum will produce the same effect as does the 1.4444 of the vapor or the oil of turpentine upon phosphorus in the atmosphere.

Art. 72.—*On Poisoning by Phosphorus; arrested by the Essence of Turpentine.*

By Dr. Andante.

(*Journal de Pharmacologie*, November, 1868.)

The author of this paper relates a case in which a man, sixty-three years of age, took (for the purpose of committing suicide) no less than 120 phosphorus ends of lucifer matches, chewing them deliberately and swallowing without expectorating. He took these in two doses, and, to make assurance doubly sure, he followed up each dose with a dose of essence of turpentine. He did not vomit, had pains in his stomach, which were bearable, and his mouth was dry. After a time he was intensely thirsty, and exhaled an odor of phosphorus and turpentine combined. Ultimately he recovered in the course of ten days. The case is worthy of notice, as affording support of the view that turpentine is an antidote to phosphorus.

Art. 73.—*Poisoning by Cimicifuga.*

By Dr. Garrison, of Woodville, Tennessee.

(*The Medical and Surgical Reporter*, June 12.)

Dr. Garrison reports that on the 21st of December, 1868, he was called in consultation to a lady, aged twenty-four, wife of an eminent physician of an adjoining county. She had been having labor pains during the greater part of *one month*. The pains were continuous during the day, but would cease after

lying down at night. She had already reached the end of the *tenth* month of gestation, labor pains having set in at the expiration of the normal period. During the pains the uterus would contract vigorously, and the os would dilate to the size of a silver dollar, but would contract again after the cessation of the pains at night. This was her second pregnancy. A similar condition existed at her former labor, which was terminated safely after the administration of ergot. At the time of the visit the patient was in good health and spirits, and the fœtus was vigorous. It was decided to try the virtues of cimicifuga as a parturifacient, as being safer than ergot, and from the fact that the uterine contractions were already tolerably energetic. Accordingly a drachm of Squibb's fluid extract of cimicifuga was administered. In less than two hours the patient began to complain of great pain in the head, back, and limbs, with vertigo to such an extent that she could not sit up. Her pupils were enormously dilated and vision very much disordered. *The labor pains ceased entirely for thirty-six hours,* and the pupils remained dilated for that length of time, although the intense pain in head and limbs ceased in about twelve hours. During the first twelve hours after the toxic dose was exhibited there was nausea and vomiting, with feeble pulse and prostration. Brandy, coffee, and aromatic spirits of ammonia gave relief. After the lapse of a few days the pains returned as vigorously as ever. The presentation being normal, it was decided to give ergot, which was done. It produced tonic contraction of the uterus for several hours, but its influence gradually wore away and nothing was accomplished. The membranes, which were very dense, were punctured, after a vain attempt to rupture with the finger, and a larger quantity of liquor amnii was evacuated. From this time the labor progressed rapidly and favorably, and in two hours the patient was delivered of a healthy child. No permanent injury to either mother or child, in this case, resulted from the cimicifuga; but it is proper to record such an instance of its power, and consequent value as a therapeutic agent *when indicated.* It would be well enough to remark in this connection that this patient is remarkably susceptible to the influence of the narcotics; one-eighth of a grain of the sulphate of morphia has produced profound narcotism, requiring energetic treatment; and one two-hundredth part of a grain of the sulphate of atropia induced delirium and alarming symptoms. These facts might have been taken into consideration when the cimicifuga was given, and a minimum instead of a maximum dose administered, but the sequel proved that it would have done no good. Dr. Garrison's estimate of cimicifuga in the treatment of some forms of amenorrhœa and certain nervous disorders is favorable, but he has had no experience to justify him in attributing to it any *specific* stimulant influence over that part of the nervous system which gives to the uterus contractile energy.

Art. 74.—*A Case of Poisoning by Nicotiana.*

By Maurice G. Evans, M.D., M.R.C.S.

(*The Lancet*, June 19.)

The following case of poisoning by nicotiana is related by Dr. Maurice: "I was summoned on the 21st instant to see a little boy, seven years of age, said to be in a fit. On arriving at the house I found him completely insensible, cold, pulseless, with prolonged respiration. On trying to rouse the child, I discovered a blackish patch, about the size of the palm of the hand, on the side of his neck, which I was informed was ringworm, and that an ever-ready old woman prescriber, with which this neighborhood is blessed, had advised the parents to procure an old much-used tobacco pipe, to scrape its interior, and apply the ash, mixed with a little oil, to the abraded surface. In the course of half an hour the child went to his father complaining of a sense of choking, tottering in his gait, and vomiting. I saw him about twenty minutes after, and found him in the state above described. The father assured me the quantity of ash applied could be held on the point of a tolerable-sized penknife. The treatment pursued was, having the part immediately well washed with soap and water,

rousing the little patient, administering ammonia and coffee, with friction to the limbs, &c. Consciousness and reaction soon commenced returning, and in an hour or so the child was out of danger."

ART. 75.—*On the Detection of Red and White Corpuscles in Blood-stains.*

By JOSEPH C. RICHARDSON, M.D., Microscopist to the Pennsylvania Hospital.

(*American Journal of the Medical Sciences*, July.)

"One of the primary steps," the author writes, "in entering upon an investigation of blood-stains is the selection of a proper menstruum for moistening the dried clot; and here, at the outset, we meet with a great discrepancy of opinion. By some authorities pure water, which certainly has the advantage of a far greater convenience in its employment, is highly recommended; whilst others, who prefer saline solutions, fixed or volatile oils, &c., condemn the use of water as utterly destructive to the red corpuscles. This opinion in regard to the action of water on the red disks seems to be one widely accepted at present.

"In the progress of some researches upon the distension of the white blood-cells when acted on by water (Pennsylvania Hospital Reports, 1869), I have often incidentally noticed that many of the red corpuscles become, after a time, so transparent and colorless by the solution and abstraction of their 'hæmato-crystallin,' that they are quite invisible under a power 400 diameters, and appear to be in reality dissolved, as stated by Professor Wyman, M. Ch. Robin, and other authorities; yet, when closely scrutinized under a 1-25th immersion objective, their faint transparent outlines can still be detected.

"This observation seemed to have such an important bearing upon the subject of my present paper, that I entered upon its special investigation, which I propose briefly to detail, premising that while the results seemed to prove a very marked difference in density, if not in constitution, between the external and internal portions of the blood-disks, I do not consider the data here collected sufficient for controverting the opinions of those experienced histologists who deny to the red corpuscle a proper cell wall."

In illustration of the author's procedure we quote an experiment:—

"Some minute fragments of dried blood from a stain made upon a piece of muslin about three months before were placed upon a slide, and adjusted on the stage of the microscope; after finding a suitable portion of clot with a thin bevelled edge, water was introduced at the margin of the cover, and allowed to flow very slowly towards the chosen fragment: when this was reached by the wave of fluid, a remarkable appearance of boiling up from its centre was presented for a few moments, and then, as the tinged liquid was replaced by pure water, an aggregation of compressed corpuscles, very faint and colorless, but yet of unquestionable distinctness, became apparent; a few straight interlaced filaments of fibrin were visible, and at intervals the granular spherical lymph-globules occurred among the other elements; these white cells frequently became detached, and floated freely around the edges of the clot, where, as well as whilst still imbedded, they were so much more readily recognized with a low power, that I suspect they have often been mistaken for the red disks. By introducing at the margin of the cover a minute portion of iodine solution (Beale, 'How to Work with the Microscope,' p. 207), the outlines of the decolorized corpuscles are rendered far more obvious, and can often be distinguished even by inexperienced observers.

"In a similar manner the blood of an ox, sheep, pig, chicken, turkey, and canary bird, most of them dried in a thin film upon a slide, and all dried in a mass upon a paper or muslin, were carefully examined, and little difficulty found in distinctly perceiving that the colorless stroma, with its 'straight or slightly waving filaments, sometimes more fibrous, sometimes more wrinkled and homogeneous' (Virchow), so long mistaken under lower powers for a mass

of fibrin, was actually an aggregation of decolorized red corpuscles, with rare filaments of fibrin, and white blood-cells imbedded in it. It is true that the older microscopists, who rarely obtained first-rate definition with their lenses magnifying much beyond 500 diameters, were probably wise in recommending that none but the most expert should attempt a decision between the blood of various mammalia, even when fresh, for the difference between an apparent magnitude of 1-10th and 1-12th of an inch may well be counted too minute to lightly determine a question often so momentous; but, as during the last three or four years opticians have furnished immersion lenses of 1-25th and 1-50th of inch focal length, which, with the highest eye-piece, give an amplification of about 2500 and 5000 diameters respectively—thus rendering, with the former, the apparent size of a red disk from fresh human blood five-sevenths of an inch, while that of a corpuscle from ox blood is but half an inch across, and, consequently, little more than half the area, as seen upon the stage—it seems as if any careful observer might now, with the aid of such objectives, be qualified to pronounce a positive opinion."

After showing that desiccation in different ways does not cause a difference in the mean diameter of more than 1-140000th of an inch, and that in no instance was a circular red disk observed to exhibit such an approximation in magnitude to those of ox blood as could, by any possibility, render its different origin a matter of doubt, the author, made the following calculation, which tends to show that the outer portion of the corpuscles (whether it be merely condensed viscid material, or a true-cell wall, composed of membrane, distinct in composition from hæmato-crystallin) is of an inelastic character. "Ten red globules of freshly-drawn human blood, magnified almost 1800 times, were measured with the micrometer, while standing on their edges, both in length (as so-placed) and in thickness, their mean diameter being found equal to 1-3346th, and their mean of greatest thickness 1-13385th of an inch. From these data, estimating the total surface of the globule as approximately equivalent to ninety-six one hundred and sixty-firsts of a ring .00029886 in outside diameter, and .00007478 of an inch thick, plus double the superficies of a segment with a versed sine of .00003739 cut from a sphere having .00017718 radius, I calculated the area of the hypothetical cell-wall to be .00000017932 of a square inch; by further computation, it was found that this amount of membrane would cover a globe .00023891 of an inch in diameter, which number so nearly coincides with that expressing the diameter of the red disk, when rendered spherical by the action of pure water, viz., .00023332 (1-4286th) of an inch, that I think we may fairly conclude that, although the shape of the corpuscle is thus altered, its parietes undergo nc real dilatation in the process; further, the corrugated appearance assumed by the corpuscle when any portion of its internal constituent is removed by exosmosis, affords some evidence that, however much the cavity is decreased, its limiting membrane suffers no actual diminution in superficial area.

"Although it must be admitted that the blood-corpuscles of a few mammals approach so nearly in size to those of man as to render their distinction doubtful, yet for the practical testing of blood-stains in criminal trials we will rarely find that such a decision is necessary, since, as a rule, justice only requires that a positive diagnosis shall be made between human blood and that of animals which are commonly slaughtered for food, such as the ox, the sheep, the pig, or of birds, as for example, chickens, ducks, &c., in regard to all of which I believe, when the disks have not undergone disintegration, a first-rate 1-25 inch objective will enable us to determine easily and beyond all question.

"I would suggest to any one about undertaking such an investigation, that he first accustom himself to the appearance of decolorized blood-corpuscles, and at the same time test the power of his instrument by repeating the experiment detailed above on a fragment of blood-clot recently desiccated upon paper or glass. Experience has shown that dried stains upon hard, smooth substances, such as buttons, studs, &c., most readily exhibit the corpuscles; next to these in case of detection are stains upon paper collars or cuffs, and upon highly glazed linen; then those upon unstarched muslin or linen; and lastly, those upon cloth and other woollen fabrics. In order to be forearmed against

the objections of ingenious counsel, he should in murder cases, whenever practicable, be provided with spots made before witnesses, with fresh blood from the corpse upon different unstained portions of the identical articles upon the supposed murderer's clothing, and also with specimens of blood dried in a thin film upon glass slides, for the purpose of disproving any hypothesis of leucocythæmia, or other blood diseases, which might alter the normal character or relative proportion of the blood elements.

"In examining the moistened clot, great care must be taken to avoid any movement of cover upon the slide, which, when it occurs, often rolls the interposed disk into an apparently homogeneous mass; and it is advisable to keep up a current of fresh water, at least until all tinge of color is removed from the clot; otherwise none but the granular lymph-corpuscles may be visible.

"Through the courtesy of Dr. Linderman, Director, and Mr. J. R. Eckfelt, Chief Assayer, of the United States Mint, I was enabled to estimate the delicacy of the microscopic test for blood, as follows: Upon a square of waxed paper, determined by Mr. Eckfelt, on the accurate balance used for the national assays, to weigh exactly forty-eight milligrammes, I made twenty dots of fresh blood from my finger, which, when dry, added .4 of a milligramme to the original weight, and, consequently, were each on an average equivalent to about .02 of a milligramme, or 1-3200th of a troy grain nearly. The fourth part of one of these spots, weighing of course, in round numbers 1-12000th of a grain, was detached with the point of a cataract needle, and when moistened under the 1-25th showed many hundred well-defined red blood-corpuscles; ten circular ones among these, measured with the micrometer, averaged 1-3494th of an inch in diameter, and could, therefore, by this criterion of superior size alone, be diagnosticated from the corpuscles of an ox, sheep, or pig, with the same feeling of certainty with which any surgeon could testify that a perforation of the skull only half an inch across could not possibly have been made by a bullet measuring an inch in diameter."

Art. 76.—*On the Reaction of Phenic Acid on Strychnia.*

By Dr. Paulo Bert.

(*Annali di Chimica applicata alla Medicina*, April; and *British and Foreign Medico-Chir. Review*, October.)

Bert states that when phenic acid is added to a solution of hydrochlorate of strychnia, a liquid is obtained which is less active than the same dose of the pure salt when administered by the hypodermic method. When the phenic acid is removed from such a solution by means of ether, the fluid becomes limpid, and is as poisonous as it was at first. The author has also shown that this process may be applied with success to the extraction of strychnine from putrefied animal matter.

Art. 77.—*On the Physiological Action of Atropine, Digitaline, and Aconite on the Heart and great Bloodvessels.*

By Frederick B. Nunneley, M.D.

(*Scientific Opinion*, August 4.)

Dr. Nunneley's experiments with atropine lead him to hold that the poison exerts no influence on the bloodvessels. On the heart the action of the poison is neither considerable nor energetic, a progressive weakening of power being the most prominent visible effect. Digitaline, on the contrary, acts with great energy on the heart, throwing it into violent and disorderly contractions, which quickly end in a cessation of movement. The frequency of the contractions is not increased, but is progressively diminished, and the functions of the heart are abolished very early, voluntary power surviving the death of the organ. This, again, is different from what occurs from aconitine, which, though it

abolishes the functions of the heart in a very short time, abolishes still more quickly all the voluntary and reflex acts. The author's observations were made on frogs.

Art. 78.—*Toxicological Cases.*

By Thomas Stevenson, M.D.

(*Guy's Hospital Reports*, vol xiv.; and *British and Foreign Med.-Chir. Review*, October.)

Of these cases one was an instance of poisoning by prussic acid, one of death from inhalation of chloroform, one of poisoning by extract of nux vomica, one of belladonna poisoning, one of acute alcoholic poisoning, and one of poisoning by hydrochloric acid. The last four cases terminated in recovery. In the case of death from the inhalation of chloroform the patient was a farm laborer, aged thirty-three, a powerful, muscular man, who had always enjoyed good health. He was suffering from old distortion of the ankle-joint, for which it was proposed to divide the tendo-Achillis, and to straighten the limb. The chloroform was administered at his own earnest request, although it turned out after his death that he had nearly died eight years before from the effects of that anæsthetic. He died from asphyxia, and different solid and fluid parts of the body were submitted to analysis in order to detect chloroform. The process consisted in employing Duroy's method, by which the chloroform is decomposed into chlorine, hydrochloric acid, and other products, and the two first-named substances are absorbed by nitrate of silver, giving rise to white chloride of silver. Dr. Stevenson observes that this is the only English case that he knows where chloroform has been detected in the human body after death by its inhalation.

SECT. IV.—THERAPEUTICS.

Art. 79.—*Sleep-Producing Agents.*

By William A. Hammond, M.D., Professor of Diseases of the Mind and Nervous System in the Bellevue Hospital Medical College, etc.

(*Detroit Review of Medicine and Pharmacy.*)

In an article on wakefulness, Professor Hammond states that *phosphorus* is a remedy which has come into use recently in treating wakefulness. It is supposed to act by supplying a deficiency in the elements of the nervous tissue. It is not easily administered, owing to its chemical properties. In the form of phosphorated olive oil, in the proportion of four grains to the ounce, it can be given. It is preferable, however, to boil twelve grains of phosphorus in one ounce of almond oil, and filter. The oil absorbs four grains of phosphorus, so that each minim contains one-one-hundred-and-twentieth of a grain. Half an ounce of the oil is now mixed with an ounce of gum-arabic, and fifteen drops of some aromatic oil are added. Of this mixture the dose is fifteen drops, equal to five drops of the phosphorated oil, and containing one-twenty-fourth of a grain of phosphorus.

He has used this remedy generally with success. Three doses are given before bedtime, and thus far have generally succeeded in producing the desired effect on the second day, if not on the first. The dose may be increased a drop a day, till twenty drops are taken, or signs of gastric irritation supervene.

Another remedy which he has used of late, especially in cases of nervous excitement where a sedative seemed indicated, is *sumbul*. This plant combined with bromide of potassium is given in epilepsy, with the result of increasing the effect of the latter. The dose of the fluid extract (Neergaard's) is from twenty drops to a drachm three times daily.

Art. 80.—*Carbolic Acid in Scarlatina.*

By H. T. Cleaver, M.D.

(*The Iowa Medical Journal*, and *Medical Record*, August 16.)

Dr. Cleaver states that he has been much surprised by the almost immediate relief afforded by the application of carbolic acid to the inflamed throat in scarlatina. He has used his remedy in 70 cases in the late epidemic in Iowa, in all stages of the disease, and prefers carbolic acid to chlorate of potash and chlorate of iron, as a palliative and curative application. The only unpleasant symptom he has observed after its use in greater strength than he ordinarily administered it, is a temporary impairment of power of deglutition. That it has the power of lessening the exalted action of the heart, and quieting the delirium so uniformly met with in scarlatina, he has no doubt. It modifies the action of the poison, and to some extent averts the disease. In none of the cases where it has been used have dropsical effusions occurred as a sequel, such as he has observed in cases treated with other remedies.

The following is his usual prescription: ℞.—Carbolic acid, ʒij., dilute alcohol, ℥ij. Mix a teaspoonful of this to a tablespoonful of water, used either as gargle or with the mop, depending upon age and ability to gargle—say once every two hours. Of the same give 10 to 20 drops in muc. acacia at same intervals; dose depending upon age of patient.

Art. 81.—*On the Use of Arsenic in the Treatment of Pulmonary Phthisis.*

By Dr. Moutard-Martin.

(*Bulletin Général de Thérapeutique*, November 15, 1868; and *British and Foreign Medico-Chir. Review*, October.)

Dr. Moutard-Martin records the results of his own experience in the arsenical treatment of phthisis, and he states that before the year 1861 he was in the habit of administering the arsenious acid in the dose of 5 milligrammes to 2 centigrammes (a centigramme and a milligramme are respectively the $\frac{1}{100}$th and the $\frac{1}{1000}$th of a gramme, which is equivalent to about 15 grains of English measure) to all the phthisical cases under his care in the Hôpital Beaujon in every stage of the disease. At that period he found that in a great number of cases there was a return of the appetite and of the general health and strength, but that the state of the lungs was not commensurately improved. Since 1861 he has continued this treatment, both in hospital and in private practice, and he now announces that he has in certain cases effected a complete cure of the disease. The arsenical treatment has not, he thinks, engaged sufficient attention among physicians in consequence of the general incredulity as to the possibility of curing phthisis at all; but now that the curability of the affection is proved, the partial success of arsenic ought to encourage the profession to a more extensive employment of that drug. Dr. Moutard-Martin divides the patients treated in the hospital into two groups, namely, those who are without fever or diarrhœa and who retain their appetite, and those who have fever, either continuous or intermittent, and who suffer from abundant sweating, loss of appetite, diarrhœa, and vomiting. Among the patients included in the first class some have distinct cavities in the lungs, while others present only crude tubercles or tubercles in a state of softening. In any of these cases, under the use of arsenic, the appetite increases, the strength is restored, the complexion becomes brighter, and the weight increases; but the patients then often request to be discharged from the hospital, and they soon return with an aggravation of their symptoms. Dr. Moutard-Martin attributes this relapse to the discontinuance of the treatment, the continuity of which can alone secure success, and to the insalubrious conditions in which they ordinarily live. He relates a case in which not only the general symptoms

were relieved, but the local phenomena were modified in a favorable manner. He does not, however, believe that the tubercles disappear under the treatment, but he thinks that the surrounding pneumonia is diminished, and that if the arsenical treatment were continued long enough even a cavern might be modified so as to be reduced to an inert cavity surrounded by healthy pulmonary tissue. The patients admitted into the hospital under more unfavorable conditions, as with fever, sweating, and diarrhœa, were also relieved by the arsenical treatment, but the beneficial results are not so rapid or so constant. Dr. Moutard-Martin relates some other cases of striking benefit obtained from the arsenical treatment, and he believes that they are sufficient to give encouragement, and to prove that pulmonary phthisis may be cured, even at an advanced period, and that although it is not cured, it may be frequently relieved.

Art. 82.—*On the Therapeutical Use of Digitalis.*

By Dr. S. Kersch, of Prague.

(*Schmidt's Jahrbücher der Gesammten Medicin*, March 20, 1868; and *British and Foreign Med.-Chir. Review*, October.)

Dr. Kersch has employed digitalis in twelve cases of pneumonia, five of pleurisy, and fifteen of typhus. In the two former, as long as the exudation continued, he found that there was no effect upon the pulse, but always on the discontinuance of the exudation the result was remarkably beneficial. In typhus the pulse became only irregular, but never diminished in frequency. Dr. Kersch found digitalis especially useful in those cases of cardiac disease in which the chief feature was an organic change in the valves or openings, and in which the pulse was accelerated, generally small, and always irregular, so that a few powerful and slower pulsations alternated with some weaker, smaller, and more rapid ones. After a continued use of the digitalis the pulse became in such cases not only slower, but also completely regular, strong, and uniform. An important condition for the employment of digitalis, according to Dr. Kersch, is that the blood should be in a normal, that is to say, uninflammatory state, and that the patient should not be cachectic, leukæmic, or anæmic, for in such cases Dr. Kersch has never observed any success to follow the use of the drug, unless the poisonous effects produced by increased doses can be considered desirable results. As to the cases in which digitalis was employed unsuccessfully, Dr. Kersch believes that the influence of the drug on the permanently altered nerves is rendered nugatory, because by their continually deficient or abnormal nutrition as a result of the preceding long-continued anæmia, or of the abnormal constitution of the blood, as, for instance, in its structure or its proportional amount of fibrine, an irreparable alteration is developed.

Art. 83.—*The Hypophosphites of Lime and Soda in Consumption.*

By Richard Payne Cotton, M.D., F.R.C.P, Senior Physician to the Hospital for Consumption, Brompton.

(*Medical Times and Gazette*, December 12, 1868.)

In pointing out the errors into which Dr. Churchill[1] has fallen, Dr. Cotton writes :—

"In the first place he tells us that of my twelve cases treated by the hypophosphites (*Lancet*, April 25 and May 2, 1863), eight were improved, four of which number he even says were cured. If your readers will refer to the papers, they will find that six only improved, and that these six did just as well, and in at least two instances apparently better, under other treatment; and that, so far from the hypophosphites doing any good, they were perfectly innocent of any effect whatever.

---

[1] See *Half-yearly Abstract*, vols. xlviii. and xlix.

"Dr. Churchill boasts of having 'demolished' my arguments in the pages of his book. I need hardly remark that such a mode of demolition is very easy, but not very convincing. Dr. Churchill asks why I did not try carbonate of soda first, and afterwards the hypophosphites. He must have seen in the papers that he has criticized and so completely 'demolished' that I had done so, and with the same result so far as the effects of the hypophosphites were concerned.

"I would remind Dr. Churchill that others besides myself have tried the hyphophosphites, and with similar results. My colleague, Dr. Quain, gave them in twenty-two cases at the hospital for consumption, and found that 'no effect was produced; nothing more being felt by the patient or noticed by the physician than if so many grains of carbonate of soda or prepared chalk had been taken' (*Lancet*, March 17, 1868). Dr. Risdon Bennett also tried them at the Victoria Park Hospital, and found 'no specific nor anti-tubercular action, nor any special influence exerted by them on any one function of the body.' (*Medical Times and Gazette*, April 27, 1861.)

"Dr. Churchill tells us, in proof of their usefulness, that his alkaline salts 'have spread over the whole civilized world—from Russia to Australia, and from India to Peru.' I would merely remark that if I, or any one else, were to advertise a 'specific remedy for consumption' in several European languages, it would insure for it the like ubiquity. Dr. Churchill finally tells us two facts—(1) that the hypophosphites of soda and lime were introduced by him as 'the specific remedy for consumption,' ten years ago; and (2) that within the last two years phthisis, according to the report of the Registrar-General, has greatly decreased in mortality. Admitting the facts, I confess that I am at a loss to see their connection. If it be a logical one, I must leave its recognition to my professional brethren, confessing that I am too obtuse to see it. I hope that my colleagues and myself have done something towards this happy result, but if so, it has been without the aid of the alkaline hypophosphites, since these have not been employed for some years, except in the experiments I have referred to, at the Hospital for Consumption at Brompton."

ART. 84.—*On Some of the Effects of the Bromide of Potassium, when administered in Large Doses.*

By WILLIAM A. HAMMOND, M.D., Professor of Diseases of the Mind and Nervous System in the Bellevue Hospital Medical College, etc.

(*Quarterly Journal of Psychological Medicine*, January.)

Without going into a detail of all the physiological and therapeutical effects which result from the employment of bromide of potassium, Dr. Hammond points out some of those which occasionally ensue after its use in large doses. This is appropriately done by relating the particulars of several cases which have come under his immediate notice.

The symptoms due to large doses of the bromide may be stated as follows, in the usual order of their occurrence:—

1. Contraction of the pupils.
2. Drowsiness.
3. Weakness of the arms and legs.
3. Depression of mind.
5. Failure of memory.
6. Delusions.

The first three of these are, Dr. Hammond thinks, usual accompaniments of an active dose of the medicine—one capable of producing an influence over such an affection, for instance, epilepsy. They simply show a sedative effect due to cerebral anæmia. In adults, they never, so far as the author's experience goes, follow a less dose than ten grains. Doses of five grains produce no obvious effect.

No permanent difficulty results from very large doses of the bromide; all the

symptoms due to it ceasing soon after the administration is stopped. In some diseases, such as epilepsy and paralysis agitans, it is frequently necessary to push the medicine to the utmost limit of endurance, before its power is manifested.

Dr. Hammond always administers the drug in a largely diluted form—not only with the view of avoiding the nausea and purgation due to concentrated saline solutions, but in order to secure its more ready absorption.

Art. 85.—*On the Effects of Podophyllin.*

By Dr. Pietro, of Venice.

(*Giornale Veneto di Scienze Medicale*, and *British and Foreign Medico-Chirurgical Review*, October.)

Dr. Pietro has made some experiments in relation to podophyllin, both on himself and on some patients. The drug is employed in the Venetian hospitals in the dose of from 15 to 20 centigrammes; it has been given there on a large scale, and almost always alone, for relieving constipation, and it has generally only been used in chronic cases. In all it has produced purging, preceded and accompanied by colic. A dose of 5 centigrammes (1-20th of a gramme) generally causes three or four liquid stools.

Dr. Pietro, in the experiments on himself, found that after the introduction of the medicine he felt nausea, and a little irritation of the stomach, but the symptoms disappeared when he went to bed; and in the morning there was an evacuation of liquid matter, colored yellow, and every hour for five hours the evacuation was repeated. A few days afterwards Dr. Pietro took a double dose, namely 10 centigrammes, and immediately there were nausea, and attempts to vomit, which lasted about two hours. At the end of four hours there was shivering and a feeling of prostration. The night was passed pretty well, but in the morning he was awoke early by violent colic, followed by liquid stools, which were repeated till nine o'clock. Dr. Pietro draws the following conclusions from his experience: 1. Podophyllin is always purgative, even in minimum doses. 2. It is suitable for all cases where drastic purgatives are indicated. 3. It produces an effect without causing uneasiness, in the dose of 5 centigrammes. 4. It may be united with some sedative substance.

Art. 86.—*On the Action of Digitalis in Typhoid Fever.*

By Ernst Hankel, M.D.

(*Archives der Heilkunde*, April.)

Dr. Ernst Hankel has reported the results of investigations made on eighty cases of typhoid fever, under the care of Wunderlich, which were treated by the administration of an infusion of digitalis—1½ or 2 grammes to 180 grammes. The following were the chief results: 1. Digitalis, administered in suitable quantity in typhoid fever, always produces a considerable diminution of fever, lasting for several days, and lowers the pulse for some weeks. Hence the use of the drug is indicated in cases in which the temperature in the evening attains the height of 40°.5 C. (105° Fahr.), and in the morning presents only slight intermissions; also in cases in which the contractions of the heart are 120 or more in the minute; particularly when these signs occur in the second week of the attack. 2. Digitalis lessens the delirium, and is indicated whenever this symptom coexists with unusual height of temperature and frequency of pulse. 3. The pulse, especially when small, becomes fuller after the administration of digitalis. 4. The administration of the drug is not contraindicated by albuminuria, or even by Bright's disease. 5. With proper caution on the part of the medical attendant, dangerous and deadly collapse need not be feared. Digitalis may be given without danger to anæmic and depressed patients. 6. A tendency to hemorrhage is not much increased by administering digitalis. The infusion may be even continued during bleeding, if this be not very profuse.

7. Gastric catarrh is increased naturally by digitalis. 8. The duration of the attack is prolonged under the influence of digitalis, so that this remedy ought only to be administered in cases where danger is threatened by fever, low pulse, and cerebral symptoms.

ART. 87.—*Rheumatic Paraplegia cured by Nitrate of Silver.*

By Dr. LOUIS CARADAC, of Brest.

(*Gazette Hebdomadaire*, Second Series, t. v. 1868; *Schmidt's Jahrbücher*, Bd. 242, p. 26.)

A cook, aged thirty-eight, fell, thirteen years previously, on his back, and from that time had a marked tumor in the dorsal region, without any disturbance of the general health. A year later pains came on in the loins, with pains, paresthesia, and weakness in the legs, which, however, again disappeared. The patient then remained healthy, with the exception of slight twitching pains, till after eleven years he took a house in a damp and generally unhealthy locality. Then he became subject to very severe pains, which presently fixed themselves in the shoulder and back. In this state of things he again had a severe fall on the back, bruising it considerably. This local injury was quickly cured, but the pains returned, and were specially localized in the back and arms. A variety of means were employed without benefit; the pains more and more affected the loins and the legs, and became especially and extremely severe on any movement. Then came on marked hyperæsthesia of the skin of the legs, twitchings of the muscles, and gradually increasing palsy of them, with paresis of the sphincters, and diminished expulsive power of the intestines and the bladder. After a time there was complete paraplegia, with also disappearance of the hyperæsthesia. After the paralysis had lasted a year, in spite of the various remedies employed by several physicians and quacks, Dr. Caradac determined to try lunar caustic. He gave it in gradually increasing doses, from one up to eight centigrammes in the day; after three weeks there was decided improvement of sensibility and mobility, and after three months the patient could move about so freely, though somewhat stiffly, that he was able to take a situation as ship's cook. This he kept for five years, and remained healthy all the time, though at the beginning of it he was shipwrecked, and took an involuntary bath of half an hour's duration.

Dr. Caradac considers that the paraplegia was the effect of a rheumatic spinal meningitis and secondary compression of the nerves, and that the remedial action of the nitrate of silver was indisputable, and ought to be resorted to in similar cases.

ART. 88.—*On the Use of Antiseptic Cere-cloth for Covering Wounds.*[1]

By EDWARD LUND, F R.C.S., Lecturer on Anatomy, and one of the Surgeons to the Manchester Royal Infirmary.

(*British Medical Journal*, September 4.)

This material is, as the name implies, cloth or thin calico saturated with waxy matter in the form of solid paraffin, to which are added a little oil and wax, with carbolic acid in certain proportions. It possesses this double property, that, when placed over a wound, ulcer, or the opening of an abscess, it not only serves to exclude the air as an impervious dressing to the part, but it constantly emits from its surface the vapor of carbolic acid, as it is disengaged by the heat of the body, and so forms an antiseptic atmosphere around the wound.

---

[1] Read in the Surgical Section at the Annual Meeting of the British Medical Association, in Leeds, July, 1869.

It will be found an economical and ready substitute for the antiseptic lac plaster of Professor Lister.

The exact formulæ for the cerates with which the calico is saturated are as follows: the form in each case being intended for twelve fluidounces of the cerate in the liquid state—enough to spread about one square yard and a half of the cere-cloth. The quantities are to be measured by bulk, and not by weight—that is, for the carbolic acid and the oil, as well as the paraffin and the wax which have been previously liquefied; for Mr. Lund finds that in this way he gets a greater uniformity in the composition.

No. 4, or the strongest form of the cerate, is composed of pure carbolic acid, Calvert's *liquefied*, f℥iij; olive oil (colored red with alkanet-root, to distinguish the cerate), f℥iss; yellow wax, *liquefied*, f℥iss; paraffin, *liquefied*, f℥vj. Mix.

No. 6, the next in strength, and of a yellow color, is composed of pure carbolic acid, f℥ij; olive oil, f℥iiss; yellow wax, f℥iiss, paraffin, f℥v. Mix.

No. 8, the weakest, which should be nearly white, is composed of pure carbolic acid, f℥iss; olive oil, f℥j, f℥vj; white wax, f℥j, f℥vj; paraffin, f℥vij. Mix.

In the preparation of the cere-cloth the author writes solid paraffin is used as the basis of the composition with which the cloth is saturated. It has these advantages: the paraffin in itself is not at all irritating to the skin; and, when made into cere-cloth, it adapts itself easily to the surface to which it is applied, moulding itself to any peculiarities of form by the warmth and gentle pressure of the hand, at the same time that it is in no way adhesive, as ordinary ointment or cerates would be; and, therefore, when it is required to be removed, it can be raised or slid off from the surface with the least possible disturbance, and a fresh piece placed in its stead. The mixture of solid paraffin oil, wax, and carbolic acid, in the proportions above mentioned, does not liquefy much below 190° Fahr.: so that it retains its solid form at the ordinary temperature of the body, the vapor only of the carbolic acid being slowly dissipated. It is likewise an inexpensive material—a matter of no small importance in public practice.

In using the cere-cloth for dressing wounds, although it is important to bear in mind that the exact size and quantity to be employed must vary with the extent and depth of the wound to be covered, and the time which is to elapse before its reapplication, yet it is always prudent not to use carbolic acid at a greater strength or for a longer period than is really needed to prevent or check putrefactive changes. As soon as these have ceased, or, after a reasonable time, have not manifested themselves by the presence of fetor, the weaker the carbolic preparation the better; for there can be no doubt that carbolic acid is an irritant, and in some constitutions a very powerful irritant; hence it becomes a cause of protracted suppuration by over stimulation. How to adjust the exact strength of the application in any given case is a matter of great difficulty; and it is doubtless one reason why many surgeons, who have given carbolic acid a trial with the object of averting putrefaction, have ceased to use it, thinking that at times it seemed to do more harm than good.

To obviate these difficulties, Mr. Lund makes the cere-cloth of three degrees of strength, as it contains one-fourth, one-sixth, or one-eighth of carbolic acid. The strongest quality is needed in the arrangement of the early stages of a wound; the others are more useful while cicatrization is going on.

Art. 89.—*Clinical Therapeutics.*

By S. O. Habershon, M.D.

(*Guy's Hospital Reports*, vol. xiv.)

The object of Dr. Habershon in this communication is to show that in treating disease the whole history of each case should be studied, and more especially the antecedent conditions of the patient, for the existing malady may be only the result of some latent organic mischief, or of some constitutional taint, which may either impede the cure, or even render a cure impossible. Dr. Habershon sums up his views under a few heads, the general conclusion being that succes-

sive stages of the same disease are very apt to be mistaken for new ailments; that acute changes in the system are always modified by former diseases; that the intensity of the influence of the former malady lessens according to the interval of time since the attack; that when two diseases concurrently affect a patient, the one modifies the other in an important manner; that a general affection has a more powerful effect than a local one, but that local disease, especially when symmetrical in character, is the expression of a constitutional malady; that when we attempt to relieve organic local disease by diminishing its more prominent symptoms, great care must be taken lest the original malady may be increased; that any true antagonism of disease is very doubtful, and that the surrounding circumstances should conduce if possible to the restorative process.

Art. 90.—*On the Action of Veratrin.*

By M. Pégaitaz.

(*The Lancet*, November 13.)

A very careful investigation of the therapeutic properties of veratrin has recently been made by M. Pégaitaz, who has published his results in the *Deutsches Archiv für Klinik Medicin* for last month. He describes its effects both when taken internally and when subcutaneously injected; and finds them almost precisely the same, being as follows: In the earlier stages, excitation; subsequently depression. Then follow in succession, salivation, nausea, sensation of choking, vomiting, and usually diarrhœa. The voluntary movements become unsteady, the want of power displaying itself first in the posterior, and subsequently in the anterior, limbs; accompanying this there appeared to be a certain degree of stiffness. There was coincidently exaltation of the reflex sensibility and diminution of the sensibility. The temperature, the number of the respiratory acts, and of the beats of the heart, were all transiently diminished. Convulsions and tetanus finally set in; but careful examination failed to discover any indications of inflammatory mischief. Experiments made with a view of testing its applicability as a remedy which might be used hypodermically seem to have been unsatisfactory; showing that whilst it acts in this way similarly to its operation when given by the mouth, yet the injection produces very great pain.

Art. 91.—*On the Febrifuge Properties of Quinia, and its Efficacy in Pulmonary Consumption.*

By Dr. Liebermeister.

(*Schmidt's Jahrbücher der Gesammten Medicin*, February 20, 1868.)

Dr. Liebermeister has formerly contributed some observations on the febrifuge properties of quinia in abdominal typhus, and in his present paper he shows that the alkaloid acts in a similar manner in some other febrile diseases, such as the purulent fever of variola, erysipelas faciei, acute articular rheumatism with or without heart disease, pneumonia and pleurisy; but his communication is especially interesting in reference to the febrifuge action of quinia in pulmonary phthisis. This action is the more conspicuous in the fever which accompanies pulmonary tubercle, the higher the degree of the fever is and the more it approximates to the continued character. Dr. Liebermeister therefore maintains that the general opinion as to the efficacy of quinia in phthisis being especially remarkable in cases having an intermittent type is erroneous. He recommends accordingly that the use of the quinia should be continued in large doses for a considerable time, in order that the local symptoms may be improved by the relief of the accompanying fever. He relates a case of phthisis in which caverns had already developed themselves in the lungs, but in which, under the use of quinia (combined with digitalis), the patient recovered his weight, and was able to resume his work, although he had a subsequent relapse. Dr. Liebermeister, while admitting that the use of quinine (with

digitalis) is not successful in all cases of phthisis, thinks that it ought to be tried even in advanced cases of that disease. But the most useful field for treatment in pulmonary consumption is at the commencement of the disease, and in this stage the combination of quinia with digitalis is especially serviceable.

Art. 92.—*On the Use of Tincture of Green Hellebore (Veratrum Viride) in Inflammation of the Lungs.*

By Dr. Drasche and Dr. Kiemann.

(*Schmidt's Jahrbucher der Gesammten Medicin*, November 25, 1868; and *British and Foreign Medico-Chir. Review*, October)

Dr. Drasche considers that the treatment of inflammation of the lungs by veratrum viride offers one of the most remarkable examples of the cure of an acute inflammation. The operation of the drug is most clearly and most early manifested in its effect on the fever, and after the first doses, or after a few hours, a partial or general diminution of the febrile symptoms is manifested. This effect is exhibited in all the stages of pneumonia, but it is far less certainly or constantly present in pleurisy, tuberculosis, and typhus. The pulse is diminished in rapidity and strength, and in one case recorded it was reduced twenty beats within two hours after two doses of the tincture. Together with the pulse the temperature also falls almost regularly from one to four degrees, and this fall remains even after the veratrum is discontinued, and when the pulse rises. The effect of the drug upon the breath is less constantly observed, but for the most part there is relief of suffering. Among the inconveniences of the use of the veratrum in pneumonia the most common is vomiting, and sometimes there is diarrhœa, and occasionally hiccough. Dr. Drasche thinks that the veratrum not only controls the fever but also the local disease of the lungs. When it is administered in the course of pneumonia with yellow sputum and violent fever, the peculiar expectoration disappears in a short time, together with the cessation of the febrile symptoms, and auscultation and percussion prove that the local disease is arrested. But if the medicine is discontinued, as, for instance, on account of vomiting, the fever and the expectoration return, and the hepatisation advances. Dr. Kiemann, who observed a great number of cases of pneumonia, in connection with Dr. Drasche, in hospital practice, and has described forty of them with accuracy, agrees with the latter physician as to the efficacy of the veratrum. Of the forty cases treated, thirty-five recovered and five died. A table is given of the period when resolution of the pneumonia was established in the successful cases, the commencement of the disease being reckoned from the occurrence of shivering, and the end from the time when the vesicular breathing returned in the formerly hepatized lungs. The period, as shown in the table, varied from the eighth to the twenty-sixth day. The fatal cases were considered very serious on their admission, and were complicated with other diseases besides pneumonia. Vomiting was present in more than half of the cases treated by veratrum, but it ceased generally some hours after the discontinuance of the drug. Hiccough seldom occurred, and when it did it was relieved by ice or soda-water. Diarrhœa supervened in one third of the cases, but gastro-enteritis was never observed in the post-mortem examination, and collapse never occurred. Dr. Kiemann observed diminution of the pulse under the use of veratrum not only in pneumonia, but also in diseases of the cardiac valves, endocarditis, pleurisy, and bronchitis. In a fatal case of scarlatina 20 minims of the tincture of veratrum viride reduced the pulse in two hours from 168 to 104 beats, while the temperature rose from 41° to 42°. In two cases of typhus and in different cases of tuberculosis no effect was observed on the fever.

Art. 93.—*Experiments with Pancreatic Juice.*

By MM. Chauvin and Morat.

(*The Lancet*, October 16.)

In the Academy of Sciences of Paris, M. Chauvin and M. Morat have recently read a paper "On the Pancreatic Juice," and the conclusions at which they have arrived are—first, that the general results of their experiments on artificial digestion with this fluid agree with those made by older experimenters, from Eberle to Claude Bernard. Secondly, that in such experiments with artificial digestion the action of the pancreatic juice is not checked by the presence of gastric juice, nor by hydrochloric acid considerably diluted with water. Thirdly, that at ordinary temperatures, and in inert vessels, the juice does not act so energetically as when maintained at the temperature of the body, and under the influence of the movements of the digestive fluid. Fourthly, in the digestion that ordinarily takes place in the stomach—and this is a capital point—the pancreatic juice preserves its energies intact, notwithstanding the presence of the gastric juice, and may initiate in the interior of the stomach a complete digestion of the three species of the alimentary substances. And, lastly, they state, that in a clinical point of view they have obtained remarkable results with the aid of pancreatic juice and extract.

Art. 94.—*On Charcoal Respirators.*

By William Marcet, M.D., F.R.S., Assistant-Physician to the Hospital for Consumption and Diseases of the Chest, Brompton.

(*The Lancet*, November 6.)

From experiments made by Dr. Marcet, it appears that a charcoal respirator will not only warm the cold air breathed out of doors, but will also impart additional heat to the air of a room comfortably warm, although considerably under the temperature of the body; and it is questionable whether, in certain cases of excessive irritability of the throat or bronchi, the indoor use of the respirator may not be attended with advantage. Dr. Marcet's experience is now tolerably extensive as to the out-door use of the respirator in winter time; a number of his patients at the Consumption Hospital are wearing them in cold or foggy weather, or to rid air of smoke or other impurities, and they all agree as to the comfort and benefit they experience from their use.

The charcoal respirators are manufactured by Mr. Rooff, of No. 7 Willow-walk, Kentish-town.

Art. 95.—*On the Value of Tincture of Cantharides in some Forms of Pyelitis.*

By Edward Mackey, M.B., of Birmingham.

(*British Medical Journal*, June 26.)

In support of the opinion that tincture of cantharides exercises a beneficial operation in certain forms of pyelitis, Dr. Mackey relates two cases treated by himself some years ago. In the first case, that of a female, the earliest symptoms were observed when the patient was only ten years old, and consisted of smarting pain in the urethra, with frequent calls to pass urine, and violent pain in the right loin, darting downwards. She did not suffer very severely, however, till long afterwards, when she was treated at the Bristol Hospital, and subsequently at the Leeds Infirmary, for symptoms indicating great irritation of the kidneys, and attended with the excretion of pus with the urine. She was sounded by Dr. Teale for stone, but none was found. In July, 1865, Dr. Mackey saw her, when she was suffering from constant calls to micturition,

with great pain along the course of the right ureter, and the urine was found to contain pus. After a number of different remedies had been tried, the tincture of cantharides was administered in doses gradually increased from one to fifteen drops, and at the end of a fortnight she was decidedly easier, and continued so as long as she took the medicine. Although she was relieved, however, she was not eventually cured. In the second case pus was noticed in the urine when the patient was sixteen years old, and micturition was frequent and painful. Dr. Mackey saw her in the year 1866, and administered the tincture of cantharides in the dose of three minims with considerable relief, but she eventually died in 1867, and on a post-mortem examination one kidney was found atrophied, and the other contained several calculi.

ART. 96.—*Action of Veratrum Viride and V. Album.*

By Dr. OULMONT.

(*American Journal of Pharmacy;* and *Pharmaceutical Journal*, October.)

Dr. Oulmont (*Neues Repertorium für Pharmacie*, 1868, Bd. xvii. Heft 3, p. 177) published some interesting observations and experiments made on man, dogs, rabbits, and frogs with *Veratrum viride*. When small, non-fatal doses were given to the lower animals, the symptoms were localized chiefly in the digestive, respiratory and circulatory systems, and on the general force. In the digestive system they consisted of nausea, of vomiting, which sometimes lasted for twenty hours, and of diarrhœa. If doses sufficient to cause death were administered these symptoms occurred in an excessive degree, but no signs of inflammation could be discovered. The respirations were powerfully affected at an early stage; they were sometimes unequal and irregular; they were sometimes diminished in number to two or even one in the minute; and in frogs they were sometimes altogether stopped. The rapidity of the circulation was soon diminished, the pulse being often reduced within fifteen minutes by from twenty to forty beats in the minute. The effect on the temperature was somewhat less marked. It falls two, three, or five degrees in from an hour and a half to two hours, and it may remain at this reduced point as long as twenty-four hours. The hyposthenic action is nearly immediately produced, and the weakness and sinking of the general force are prominent effects of large doses; but even when these are sufficient to cause death, neither muscular stiffness nor convulsions ever occur. The latter symptoms, however, are the special characteristics of the action of veratria. For the purpose of comparison Oulmont examined the action of *V. album*. He found that it is distinguished from that of *V. viride* by the greater violence of its effects on the digestive system, where it always produces imflammatory lesions, and by the greater rapidity of its action. Finally, the action of the alkaloid veratria was investigated with the somewhat unexpected result that it is not the true active principle of veratrum. Some *V. viride* was completely freed from the alkaloid, and an ordinary dose given to an animal; the effects were in all respects the same as those in the usual preparation. Oulmont concludes that *V. viride* is a cardiac poison analogous to *Digitalis*, from which it is distinguished by its extraordinary rapidity of action. The investigation is of special interest, as until now, a considerable amount of uncertainty has existed as to its exact physiological action.

ART. 97.—*Notes on Three new Anæsthetics: Bromoform, Bromal, and Iodal.*

By Dr. RABUTEAU.

(*Gazette Hebdomadaire, No.* 43.)

The analogy which exists between various bodies considered from a chemical point of view, may be often carried into their physiological effects. Thus I have thought that bromoform might possess physiological properties analogous

to those presented by chloroform, and that bromal and iodal might produce upon the animal organism, effects resembling those caused by chloral.

Experience has confirmed my anticipations. Still the experiments that I have made as yet are not sufficiently numerous to permit me to lay down a definite judgment. My present intention is to make known the results that have been already obtained, and I intend to continue with activity the study of these new anæsthetics.

Bromoform.—This body is very little known to chemists. I have prepared a small quantity for myself, by decomposing with potash bromal which I had previously obtained. This latter agent acts in fact like chloral; that is to say, that it, under the influence of bases, affords bromoform and a formiate.

$$\underbrace{C_2HBr_3O.}_{\text{Bromal.}} + \underbrace{KHO}_{\text{Potash.}} = \underbrace{CHBr_3}_{\text{Bromoform.}} \quad \underbrace{CHKO_2}_{\text{Formiate of potassium.}}$$

The liquid which I obtained was distilled at between 60 and 65 degrees, and presented chemical and organoleptic properties completely analogous to those of chloroform, so that it might have been readily confounded with the latter agent. The following, however, is one of the differential characters; whilst chloroform in dissolving iodine is colored a violet blue, bromoform in dissolving the same metalloid, is colored a splendid carmine red.

A rat when placed in a glass vessel containing a piece of sponge saturated with from five to six drops of bromoform was put to sleep, and anæsthesized completely in the course of half a minute or a minute; the anæsthesia lasted from two to three minutes. One may cause this condition to last indefinitely by continuing the inhalations of bromoform. The animal afterwards recovers completely.

I wished to anæsthesize a dog by making it respire bromoform, but the quantity of fluid which I had at my disposal was too small. Still, I obtained complete anæsthesia, although the animal was not thrown into a sleep like the rats upon which I had performed my previous experiments. I could pinch and prick the paws and tail of the animal without its evincing the slightest sensibility. Its pupils were very much dilated.

The results of these first attempts seem to me put bromoform before chloroform. Bromoform, in small doses, probably causes anæsthesia without producing a deep and dangerous sleep.

Bromal.—This body differs only from chloral in the single fact that the chlorine of the latter agent is replaced by bromine. Its formula is: $C_2\,H\,Br_3\,O$. I have obtained it in the form of a crystallized hydrate, $C_2\,H\,Br_3\,O + H_2\,O$. Its odor resembles that of chloral. When handled, it soon causes lachrymation and a nasal flux.

The first researches made with this agent led me to consider it as an analogous body to chloral, from a physiological point of view. A rat, under the skin of which is injected a small dose of this compound dissolved in water, begins to sleep in from five to ten minutes.

Iodal.—The management of this agent is extremely difficult, as it becomes volatile at 25 degrees. I prepared for myself a certain quantity of this compound by the ordinary proceeding which consists in treating iodine by a mixture of alcohol and nitric acid. It is decomposed under the influence of bases like chloral and bromal; that is to say, that it furnishes iodoform and a formiate. Like bromal, this agent powerfully excites lachrymation.

I have experimented by injecting from five to six grammes of iodal into the rectum of a dog. The animal was rendered anæsthetic, but had convulsions and succumbed. The blood was black; the flesh was unusually red, and the mesentery, brain, and spinal cord were congested; in fact, the dose was too large. Death consequently resulted, and the animal presented similar lesions to those caused by a poisonous dose of chloral.

The breath of this dog gave out the odor of iodal to a very marked degree; a proof that the iodal had not been decomposed in the organism, or at least, that it had undergone but a partial decomposition, if indeed this had taken place.

ART. 98.—*On the Treatment of Epithelioma by Chlorate of Potash.*

(*Rev. Clin. di Bologna*, March; and *British and Foreign Med.-Chir. Review*, October.)

The treatment of cancroid affections by chlorate of potash was recommended by M. Bergeron in 1864, but since that time experimental researches on the subject have been neglected. Lately, however, two cases have occurred in the practice of Professor Magni, of Bologna, in which the results of this mode of treatment have proved very satisfactory. In one case, after a blepharoplastic operation for an ulcerated epithelioma of the internal angle of the left eye in a man of fifty-two, a relapse occurred and a large ulceration of the lower eyelid was observed which had destroyed the corresponding *ala nasi*. The movable wall of the lachrymal sac was involved, as well as the corresponding edge of the upper eyelid. The part was dressed three or four times a day with a solution consisting of 8 grammes (a gramme is about 15 grains) of chlorate of potash in 123 grammes of water, and at the same time 50 centigrammes (about 7½ grains) of the salt were administered internally, and after a month of this treatment the ulcer improved in appearance, its edges became smooth and soft, its base became clear, and the neoplastic vegetations diminished. Two months afterwards cicatrization was complete except at the angle of the upper lid. In the other case the result was equally successful, but the relapse was more recent and the ulcer less extensive. After cauterizations with nitrate of silver and the acid nitrate of mercury had been employed unsuccessfully, the chlorate of potash, used externally and internally, effected a complete cicatrization at the end of a month. In a third case, considerable improvement was observed from this treatment in a case of epithelioma of the forehead, but the cure was not complete at the time of the report.

ART. 99.—*On the Effect of Corrosive Sublimate in improving the Constitution.*

By Dr. H. ALMES.

(*L'Union Médicale*, July 31.)

Dr. Almès confirms the opinion given by other French physicians as to the beneficial effects of corrosive sublimate in improving the constitution; by which it is meant, that this drug not only cures the specific malady for which it is administered, but that it likewise restores the general health. Dr. Almès was struck in the year 1856, with the extraordinary powers of arsenic in improving the condition of the body, and he made experiments with other toxical agents, such as tartarized antimony, perchloride of mercury, bichromate of potash, nux vomica, &c., with a view of determining if they possessed similar properties, and the result was that he found all these poisons, in small doses, acting as restoratives on the nutrition, the appetite, and the strength, while the bulk of the body was increased. He found, moreover, that they seemed to strengthen the vital resistance against the invasion of morbid influences, thus protecting the patient from many diseases. In reference to corrosive sublimate, Dr. Almès states that he has employed it as a tonic in many cases, and especially in some children of two to five years old, who could not be suspected of having syphilis. He has continued its use for half-years and whole years, and he has almost constantly observed in the patients an improvement in their general health, characterized by the return of appetite, increase in bulk and fat, the coloration of the complexion, the development of muscular vigor, and all the external signs of health. The dose of the corrosive sublimate given with this object is very small, being from one to two milligrammes a day (a milligramme is the 1-1000th of a gramme, about 15 grains.) It is given dissolved in distilled water.

Art. 100.—*On the Results of the Subcutaneous Injection of Bichloride of Mercury.*

By Dr. J. Rosenbach, of Gottingen.

(*Henle u. Pfeuffer's Zeitschrift für rationelle Medicin*, xxxiv., p. 36; and *Schmidt's Jahrb.* No. 7.)

The following investigations, which were made upon dogs, are of especial interest from their bearing on the novel practice of injecting solutions of bichloride of mercury for the treatment of syphilis. The injections, which in every instance consisted of a strong solution of corrosive sublimate, were injected along the side of the spine.

A medium-sized dog was injected with 0.04 grammes of bichloride of mercury. It was afterwards attacked with severe diarrhœa, and died on the evening of the following day, having been again injected with a similar dose at noon. The urine reduced a considerable quantity of solution of copper. On post-mortem examination, the subcutaneous connective tissue, about the seat of puncture, was found to be much reddened and infiltrated with serous fluid; the same appearances were presented in all the subsequent experiments. The mucous membrane of the stomach and small intestine was slightly congested; Peyer's patches were somewhat enlarged, the vessels were much distended, and here and there were erosions and effusions of blood. The spiral fold—a portion of mucous membrane several lines in breadth, which passes through the canine cæcum in the form of a spiral—was completely covered by hemorrhagic patches. At its free border the mucous membrane was thickened, and covered by dark green masses. At the commencement of the large intestine, likewise, the mucous membrane was much congested, and sprinkled over with isolated spots of extravasation. The spleen was normal; the liver and kidneys rich in blood, but not enlarged. The liver cells and the renal tubuli were normal. The mucous membrane of the bladder and the brain was also normal.

In his three next experiments Dr. Rosenbach injected only 0.01 gramme of corrosive sublimate. With one dog similar symptoms to those of the first came on, but were much less severe; the small quantity of the urine contained albumen but no sugar. In another case where death occurred on the fourth day without any preceding diarrhœa, similar appearances were also presented by the tissues. The kidneys, however, contained but little blood, and showed the morbid changes which have been described by Saikowsky. On making a longitudinal section as far as the hilus, there was nothing special to observe; but on holding a thin slice against the light, there was noticed, parallel to the superficial surface of the kidney, an opaque streak along the limit between the medullary and cortical portions. This streak was scarcely 0.5 mmtr. in breadth, and was not homogeneous, as it could be separated into opaque and transparent portions. The opaque portions were evidently due to an infiltration of the straight urinary tubules with a strongly refracting material. It resisted the action of soda, but on the addition of acids disappeared with a development of gas; on the addition of sulphuric acid, gypsum crystals made their appearance.

Additional experiments were also made by Dr. Rosenbach. The results of these, though they agree in important particulars with those of Saikowsky, still present several differences. The creatures—probably on account of their small size—did not stand against the poisoning so well, and collapsed after the injection of 0.04 grammes in from twenty-four to thirty-six hours; and after the injection of 0.01 grammes within four days. The temperature was not elevated; purging always followed large doses, but after small doses occurred only in one instance.

Rosenbach observed, as Saikowsky did, hyperæmia of the gastric and intestinal mucous membrane, and also hemorrhagic erosions, which—as mercury has been found in the saliva and the excrements of the dogs experimented upon—may with certainty be attributed to an irritation of the mucous membrane by preparations of the metal mixed with the contents of the intestines. Rosenbach

never observed an increase in the quantity of urine, though in most cases there was a slight amount of diabetes.

Dr. Rosenbach, in conclusion, points out that those portions of the intestines were almost alone affected in which the intestinal contents generally stagnate and become inspissated by absorption of their fluid parts; and that hence there is a close analogy to the local affections of the canal occurring during typhus, &c. The supposition that the so-called infectious disorders are to be attributed to so-called dyscrasiæ, or rather to rapid changes in the mass of the blood, hence loses some of its support as soon as it is shown that poisonous substances, whether they be organic or chemical bodies, may in spite of their incorporation with the general blood mass, produce quite limited and localized affections of the lower part of the intestinal canal, whilst the upper part remains as good as free from lesions. This really occurs after the subcutaneous injection of mercury.

ART. 101.—*The Prophylactic Action of Copper in Cholera Epidemics.*

(*The Lancet*, November 6.)

At a recent meeting of the Clinical Society, it was stated by Dr. Clapton that his investigations on the effects of copper upon the system had elicited the remarkable fact that men engaged at the various copper-works in London always escaped cholera and choleraic diarrhœa during great epidemics. That such an immunity is really afforded by the action of this metal seems now to be a well-attested fact, since, Dr. Clapton's statements have lately been confirmed by some statistics communicated by M. Burq to the French Academy of Sciences. M. Burq states that during the epidemic of 1865–66 in France, only 1 out of every 1270 workers in copper was attacked, the total number of individuals thus engaged being 37,000. With workers in iron and steel, on the other hand, 1 out of every 209 was attacked; and of those engaged on other metals than copper or iron, 1 out of 178.

ART. 102.—*On the Destruction of Tumors by Injections of Pepsine and other Substances which act in Digestion.*

By Dr. DE CASTRO.

(*Bulletin Général de Thérapeutique*, May 30; and *British and Foreign Medico-Chir. Review*, October.)

Dr. de Castro, a physician practising in Alexandria, has lately published some cases in which tumors have been diminished by injections of pepsine. One case was that of an Arabian woman, aged fifty, who had suffered for more than two years from a tumor of the right breast, which finally ulcerated and caused considerable emaciation. Dr. de Castro removed the breast in March, 1868; but in the following September two hard tumors appeared in the axilla, and in October they had attained a great size. Dr. de Castro proposed to inject pepsine, and he made use of the acid amylaceous pepsine, which he injected into the lower tumor by means of Pravaz's syringe, and repeated the proceeding forty days afterwards. Five days subsequently, the lower tumor had diminished by one-half. Twenty-three days afterwards Dr. de Castro made another injection, and another after that, and when he revisited the patient about three months after the first injection, the tumors had diminished very considerably in volume, the complexion was healthy and the muscular strength had returned. Dr. de Castro states that a case was still under his observation, where a goitre had been considerably reduced by the injection of pepsine. It appears that injections of the gastric juice were proposed by Senebier, of Geneva, in the last century, as he imagined that the solvent action of this fluid might be beneficially employed in the treatment of cancerous ulcers.

Art. 103.—*On the Detection of Fixed Oils in Plants.*

By Dr. Thomas T. P. Bruce Warren, F.R.S.

(*Pharmaceutical Journal*, October.)

The process here recommended is admirably adapted for detecting, on a small scale, the existence of fixed oils in vegetable substances.

It consists in treating the recent emulsion obtained by expressing the juices from the plant, first with hydrochloric acid, which precipitates caoutchouc if present, and destroys the emulsive character of the juice. The caoutchouc collects as a white tenacious mass on the surface of the liquid, which is to be completely removed.

The residue is strongly agitated with bisulphuret of carbon, and, after digesting for some time, the supernatant part is decanted off.

The bisulphuret of carbon will be found to have dissolved the fatty matter contained in the juice, which may be recognized by adding a few drops of dichloride of sulphur. A granular precipitation immediately follows on the addition of the dichloride of sulphur, which is not redissolved either in ether, chloroform, or bisulphuret of carbon, even when assisted by heat.[1]

The hydrochloric acid should be added in tolerably large quantity, to insure the agglutination of the caoutchouc, since it does not interfere in the least with the subsequent part of the test.

In dealing with woody or hard fibrous substances, the same in coarse powder may be simply digested in bisulphuret of carbon, and afterwards in the manner above indicated.[2]

Art. 104.—*Fluid Extract of Pumpkin Seed.*

(*American Journal of the Medical Sciences*, July.)

Mr. Charles Hand having been requested by Dr. Cullen, of Camden, N. J., to prepare the above extract, adopted the following formula, which he publishes in the *Amer. Journ. of Pharmacy*, May, 1869, and found very satisfactory.

"Take of pumpkin seed sixteen troyounces; alcohol, sp. gr. .835, a sufficient quantity. Bruise the seed with an equal bulk of washed sand, until they are thoroughly comminuted; transfer to a conical percolator; pour upon it the menstruum until three pints have passed, reserving the first twelve fluidounces, and reduce the remainder to four fluidounces by distillation; mix this with the reserve tincture and filter."

Mr. H. states that this extract "has proved, in the hands of the above physician, a valuable remedy for 'tænia solium,' and he regards it as an indispensable addition to the list of new remedial agents. Having given it in the dose of a tablespoonful three times a day for a short period, its action was such as to destroy nearly the whole of the worm, and by continued use it was completely eradicated."

Art. 105.—*Calabar Bean in Trismus Neonatorum.*

By Dr. Alois Monti.

(*Jahrbücher für Kinderheilk.*; and *Medical Press and Circular*, August 25.)

Dr. Alois Monti, of the St. Ann's Child's Hospital, reports three cases out of five cured by this remedy. He prefers subcutaneous injections, as he thinks the internal use uncertain. He repeats these injections every ten or fifteen

---

[1] These precipitates may, in some instances, be regarded as presenting individual characteristics, and thus offer a means of detecting admixtures of oils.

[2] It will be better, in some cases, to treat such substances with highly rectified and washed ether, and to precipitate the caoutchouc by the addition of a small quantity of alcohol.

minutes until the spasms cease; then intermits them even for several hours until the cramps return. For new-born children he uses one-tenth grain of the extract per dose, and goes up to one-third, one-half, or a whole grain a day. Older children can commence with one-third grain per dose. For internal use, from one to four grains a day may be given.

Art. 106.—*On the Process for Preparing James's Powder.*

By Michael Donovan, Honorary Member of the College of Pharmacy of Philadelphia, etc. etc.

(*Pharmaceutical Journal*, September.)

Mr. Donovan believes that James's powder may be prepared in the following manner:—

"Let any quantity, say eight ounces, of bone shavings, be heated in an earthenware dish or an iron ladle over a moderate fire, and frequently stirred or raked during its incineration. When burnt to a black powder, and ammoniacal fumes are no longer perceptible, let four ounces of levigated sulphuret of antimony be thrown in, and let stirring with an iron rod from the bottom and all parts be immediately commenced and rapidly continued, so that the sulphureous fumes shall have a *free* issue and be no longer discoverable. This is most important.

"During the desulphuration, the heat should be kept as low as may be sufficient to cause the discharge of the vapor. In the dark, the powder should show a thin, blue flame, as faint as possible; but as often as this flame disappears, the heat should be gently raised until it again appear. But neither the bottom of the ladle nor the powder should be allowed to become red-hot while vapors are discharged, or while there is blue flame from the burning sulphur. At length even a higher heat will not expel any more sulphur. During this roasting, innumerable bright spiculæ of metallic antimony will sparkle through the powder. The ladle and its contents may be allowed to become red-hot for two or three minutes, the raking being continued. If the process has been rightly conducted, the powder, at this stage, will have assumed the color of the dust of Bath brick.

"The contents of the ladle should now be powdered, sifted, transferred to a skittle-pot, its cover laid on, and the whole placed on a stand in the fire-grate, and lumps of coal are to be built round and above it in such a way as to permit a free current of air to pass through. The skittle-pot and its contents will thus be brought to a uniform bright red-heat, which may be maintained at that degree for about an hour, more or less, according to the quantity. The skittle-pot is then to be taken from the fire, and should the powder prove to be pure white, except, perhaps, a thin layer at the top, it only requires to be reduced to the finest powder in an earthen mortar, and sifted through a fine silk sieve. Should the powder not prove white, it may be returned to the skittle-pot, placed in the fire as before, and continued in a state of ignition for half an hour, according to the judgment of the operator.

In the first part of the process, the sulphuret of antimony is slowly decomposed; its sulphur burns, and exhales in a state of sulphurous acid. The antimony, now insulated, appears in small brilliant spiculæ, which, as the heat increases, gradually disappear. In the second part of the process, when the roasted matter is heated in the skittle-pot, the antimony, while in the state of vapor, combines with oxygen, and is converted into protoxide, part of which crystallizes in the upper part of the skittle-pot, or escapes as a thick, white smoke. The heat increasing, the protoxide is converted into antimoniate of antimony, which remains mixed or combined with the phosphate of lime.

If the heat be raised much above that of a good coal fire in a common grate, the mass will slightly cohere, and in some parts will become yellowish and vitreous. If the heat be still higher, as that of an air-furnace, the powder will change to an olive-brown mass as hard as stone.

All the time the powder is in the skittle-pot, and very hot, protoxide of anti-

mony is escaping or crystallizing on the cover, and hence the difference discoverable by analysis, and by the medical effects of different parcels of James's powder. It, therefore, becomes an important and difficult question: What is the criterion by which the completion of the process is to be judged? I know of no other than this: that when the powder is white it is fit for use; any greater or longer-continued heat I believe to be injurious. It may not always happen that the whole charge will prove white; when it does not, the whitest parts are to be separated, and, if worth the trouble, the remainder may be slightly calcined again. But should the first charge, after being duly heated, prove dark-colored throughout, it cannot be improved, and may be rejected."

The following facts relative to James's powder were communicated to Mr. Donovan a great many years ago by a very old gentleman who had been an apothecary in Dublin, Mr. William Speer, the clever inventor of a well-known hydrometer for ascertaining the strength of excisable spirituous liquors. It was as follows:—

"In 1758, Dr. Anthony Relhan, a Fellow of King and Queen's College of Physicians in Ireland, practised in Dublin, and was one of the physicians of Mercer's Hospital. The Fellows refused to meet him on account of his employing James's powder in his practice, although the decree against antimonials by the French College of Physicians had been long before repealed. In consequence, he wrote to Dr. James, who advised him to go to London to practise, which he did. Becoming intimate with Dr. James, the latter, during several interviews, communicated the process practically to him, his patent-right having expired. In 1760 Relhan returned to Dublin, and being acquainted with Mr. Ducros, an eminent apothecary, then residing in William-street, he communicated the process to him confidentially. Ducros prepared the powder, in presence of Relhan, and it was repeatedly administered in Mercer's Hospital and other places, with exactly the effects of James's powder. Mr. Speer was apprentice to Mr. Ducros, and on his death, in 1768, succeeded to his business: the widow gave up to Mr. Speer a MS. book containing the account of the Pulvis Jacobi, which he retained ever after. The following is the process: 'Take one pound of hartshorn shavings; boil them in a large quantity of water, and dry them by a slow fire. Rub them to a fine powder. Then put an equal weight of the hartshorn and powdered crude antimony into a crucible, and set it on a moderate fire, stirring it with a long rod of iron for six hours, or as long as it smokes.'"

Mr. Donovan has repeated the above process several times, but never could produce the snow-white powder with which we are familiar; the resulting color being generally that of Bath brickdust, and on a few occasions paler. Yet the statement of Mr. Speer is, Mr. Donovan thinks, supported by facts. Dr. Pearson says, "It is probable that this powder was made for several years with merely the heat necessary to carry off the sulphur and calcine the bone, in an open vessel, and consequently it was of a light clay or ash color. Its property of turning white in a greater degree of fire appears to have been a subsequent discovery."

Art. 107.—*Carbolic Acid and Human Parasites.*

By T. A. Readwin, F.G.S., etc.

(*Pharmaceutical Journal*, October.)

Parasites having been found on and in most parts of the body, both of the healthy and the diseased, it becomes an inquiry of the highest importance, whether an efficient antidote to these ills which human flesh is said incorrectly, Mr. Readwin thinks, to be *heir to*, can be found.

That antidote, he believes, has been found in carbolic acid; this extraordinary tar product, in a dilute form, is known now to destroy all the low forms of life, whether animal or vegetal.

It has long been held that the air we breathe for life, contains also extremely active powers of destruction, and that filth and offensive odors are detrimental to health; but, only, comparatively recently, however, has it been discov-

ered that the air holds, *also*, floating in it, myriads of the minutest *germs* of plants and animals, and that these mysterious atoms alight sometimes upon the bodies of living beings, enter their lungs, their blood, their tissues, and there develop and multiply exceedingly, and become the *sources* of *disease*, infection, and death.

It is now certain that these putrefying (septic) germs are great causes of putrefactive *fermentation;* that fermentation is intimately connected with *inflammation;* that most *diseases* result from inflammation; that carbolic acid (antiseptic) will kill all septic germs, and thus remove many *causes* of disease; that glycerine is a very powerful healing-agent; that carbolic acid is freely *soluble* in glycerine; and that their *united* application has resulted in the speedy cure of some of the most dangerous diseases. It follows, therefore, that these new therapeutic agents demand very special attention.

As a rule, it is better to dissolve the crystallized carbolic acid (Calvert's) in the proportions of one part by weight of the acid to six of glycerine (*carboldte of glycerine*). In this state it can be equally diluted to any degree of strength.

In general, a *dose* of carbolic acid is 1 grain in an ounce of water.

As a *gargle*, 1 or two grains to an ounce of water.

As an *injection*, 1 grain to 4 ounces of water.

As a *lotion*, 15 grains to an ounce of water.

As an *ointment*, 16 grains to an ounce of benzoated lard.

As a *liniment*, 1 part to 20 of olive oil.

As a *plaster*, 1 part of carbolic acid to 3 parts of shellac.

The crystallized carbolic acid to be used as a caustic.

The carbolate of glycerine, as above, use in 1 or 2 drop doses, internally.

Antiseptic oil for abscesses, 1 part of acid to 4 of boiled linseed oil.

Antiseptic putty, 6 spoonfuls of the antiseptic oil mixed with whiting.

Aqueous solution of carbolic acid is 1 part of acid to 40 of water (1 ounce of acid to a quart of hot water well agitated and filtered).

Sick-rooms, to disinfect: place a portion of the dissolved crystals in a porcelain dish, and float it in a larger vessel of hot water.

Disinfecting purposes generally: 1 pound of *crystals* to 6 gallons of water. *Fluid*, 1 part to 80 of water. *Powder*, 1 ounce of crystals with 4 pounds of slaked lime.

For drains: 1 pound of the fluid carbolic acid to 4 gallons of warm water.

Tooth-ache is often cured with 1 drop of carbolate of glycerine; and diarrhœa arrested in half an hour with 2 drops in a wineglass of water.

In all cases of parasitic life it is advisable to commence with very dilute carbolate of glycerine.

Inasmuch as carbolic acid will destroy the power of *vaccine virus*, it becomes an interesting inquiry as to the possibility of using carbolic acid internally as a preventive, so as to fortify the human system against the incoming of zymotic diseases.

ART. 108.—*Danger of Giving Strong Doses of Camphor.*

(*Medical Press and Circular*, September 22.)

A case illustrating the above has recently been brought under the notice of the Société de Médecine et de Pharmacie de Grenoble. An enema consisting of five grammes of camphor dissolved in the yolk of an egg, was given to a child three years of age, suffering from typhoid fever. Symptoms of poisoning at once manifested themselves; convulsions, lividity of the countenance, stupor, arrest of the urinary secretion, &c. The employment of coffee sufficed to restore the child.

Art. 109.—*Actual Experience in Hospital Practice of Recently Vaunted Remedies.*

By D. M'Gregor, L.R.C.P. and S. Ed.; late Medical Superintendent, Barnhill Hospital and Asylum, Glasgow, now of Penrith.

(*Edinburgh Medical Journal*, October.)

The institution with which the author has been connected for the last three years and a half consists of the workhouse, hospital, and asylum of a parish (Barony), the population of which is 180,000. The average daily number in the house for several years past is upwards of 1000; while in the winter six months of each year the numbers were 1200, and sometimes even 1300. Of the entire number in the house there were nearly always an average of 350, male and female, of whom 150 were insane under constant medical treatment. All forms of disease, mental and physical, usually met with amongst the poor of this country were from time to time dealt with, so that a very considerable field was open for the putting to a practical test the various means of relief or cure of disease ever and anon suggested by members of the profession. Of this opportunity Dr. M'Gregor always availed himself, by testing every remedy recommended either by the eminence of its advocate, or by the strong array of evidence in its favor.

The remedies he has selected for comment are the following:—

Acupressure.
Acetic acid injections in cancer.
Bromide of potassium in epilepsy.
Blistering in acute rheumatism.
Carbolic acid.
Ether spray for local anæsthesia.
Holt's "Dilator" for stricture.
Iodide of potassium in syphilis.
The "sulphur cure."

Though Dr. M'Gregor's practice in acupressure has been but very limited, it has been enough to convince him of its great advantages over the ligature, in most cases at least.

The author's experience of acetic acid in cancer extends to one case only—a case of scirrhus of the breast of a female. After giving it every chance and using every precaution in its favor, in what the author considered a favorable case for it, the result was a signal failure—worse than failure, for he is sure it did harm by hastening the fatal issue. Though several other cases of cancerous disease came under Dr. M'Gregor's care since, there were none of them in which he could feel justified in interfering by acetic acid injections; but the acid in a diluted form was applied to the broken surfaces with the advantage of lessening pain and giving considerable relief. This, he found, however, could be done by several other agents as well as by acetic acid.

With respect to the bromide of potassium in epilepsy, Dr. M'Gregor says he has never yet been able to *cure* a single case of epilepsy by this drug; yet he has found it a most valuable agent in its mitigation and relief. Nay, he has in several instances kept the disease quite under control while its administration was continued. But however long this might have been done, on its withdrawal, or soon after, the disease reappeared, not with such violence at first, but increasing in severity as the time from the discontinuance of the bromide increased. The dose in which he usually prescribes it is a scruple three times a day to begin with. This he increases, if need be, by increasing the number of times a day in which it is given, till, in some very bad cases, a scruple is administered every two hours. Except in two cases he does not remember having seen bad effects from it. In these a papular rash appeared on the face, with heat and itchiness, more particularly on the nose; and in one case diarrhœa was caused by it.

Dr. M'Gregor has given the preparations of silver and zinc a fair trial in epilepsy, but never found the slightest benefit from them.

Blistering in acute rheumatism.—No remedy the author has yet seen used produces so speedy and effectual a relief, nor is followed by less annoyance, than this mode of treatment. Among the class of patients he has had to deal with, articular rheumatism is very common, and whether accompanied by fever or not, and however swollen or painful the joints, his regular practice is to apply at once a blister to every one of the joints seriously affected. Within twenty-four hours the relief is complete. On the removal of the blisters, linseed meal poultices are applied over the situation so treated, for a few days, as the case may be, after which nothing more is necessary, the patient is well, so far as rheumatism is concerned; but Dr. M'Gregor has noticed a greater tendency than usual to catching fresh colds after this treatment, and he therefore keeps the patient longer in bed than is necessary on any other ground, to avoid this risk. Generally a few days suffice for this, depending on the state of the weather. He has had no difficulty with the urine after blistering, and he is almost certain there is less risk of the heart becoming affected by this treatment than by any other he is aware of.

Carbolic acid.—Dr. M'Gregor relates several cases to prove the good effects of this remedy.

Ether spray as a local anæsthetic.—The author's experience of this means of promoting painless operations has been of a very unsatisfactory and negative character. He particularly hoped that he would find it a great boon in the extraction of teeth, and thus do away with the necessity of giving chloroform, in many cases at least. But he was disappointed. He made several useless attempts at freezing the gum, both by the single and double spray points, acting on one or both sides of the gum at the same time. No sooner was the gum paralyzed and ready for the application of the forceps than the mouth was filled with a mixture of ether, and the saliva, which its application produced in an increased quantity, requiring the patient to spit out—a loss of time which, with that required to fix the forceps, is more than sufficient in a situation like the mouth to revive sensibility, and defeat the object in view. This Dr. M'Gregor found to be the case even in the front of the mouth, where its application is comparatively easy, and much more so when the tooth to be extracted happened to be well back in the cheek. He has found it sometimes relieving toothache when applied directly to the gum, or, as in some instances, to the cheek. He has applied it to abscesses, acute and chronic, whitlows, &c., with the hope of being able to open them without pain, but always failed. There was no difficulty in freezing the skin—an operation which in itself is as painful in the author's opinion as opening many an abscess; but this effectually done, the skin is rendered so tough and hard, that however sharp the knife, it requires such an effort to get through as, in acute abscesses at least, to make the operation more difficult and painful than without it. In a large acute abscess where the heat of surface is very great, it is difficult at the best to keep up such a degree of local anæsthesia as to admit of a painless operation, more especially if one is without an assistant who continues the spray while the operator is applying the knife.

Holt's dilator for stricture.—Only in four cases has Dr. M'Gregor had occasion to use it, and in all the four with the most perfect success. Indeed the cure was so remarkable that he thinks (if he may be allowed to judge from so limited a number) in all suitable cases for this instrument it is needless loss of time, in hospital practice at least, to spend weeks upon the gradual dilatation of stricture when it can be safely done in most cases in fewer days.

Iodide of potassium in syphilis.—Iodide of potassium has always been a favorite remedy with the author in cases of syphilis, and he thinks he has often seen much good resulting from its use. But he had never used it in higher doses than 10 grains, till he noticed recently several correspondents of the *Lancet* agreeing in recommending doses of from a scruple to 30 grains three times a day in tertiary and late secondary affections. Since then he has tried it in four selected cases with very encouraging results.

The "Sulphur Cure."—The pamphlets published by Drs. Dewar and Pairman, and a discussion in a portion of the public press on this subject, led many

medical men, particularly hospital surgeons, to give it a trial in various affections it was strongly recommended in. Dr. M'Gregor got one of the instruments recommended by Dr. Dewar, and a quantity of the sulphurous acid, with the intention of trying it in the form of spray as well as by fumigation. Just at this time he was seized himself with a severe cold, which settled down on the respiratory tract from the nostrils to the larger bronchi, causing a heavy cough, with a profuse muco-purulent discharge, with much languor, and loss of appetite. In short, he had a bad attack of catarrh. Although Dr. M'Gregor had the spray in his possession, he decided on giving a first trial to fumigation. For twenty days he shut himself up in a room four times a day, twenty minutes at a time, breathing air as strongly charged with sulphur fumes as he could comfortably manage. He adopted the homely method, suggested by Dr. Dewar, of sprinkling on a shovel of live coals flour of sulphur to the proper degree. He carried out this practice very regularly; his cold being such as to keep him at least about the house, if not confined to it. Although he might have easily cured this cold, he supposed, in some ordinary way, he was so anxious to give sufficient time and opportunity to the fumigation that he took nothing else for it. At the end of three weeks, finding that his cough was really getting worse instead of better, and no improvement otherwise noticable, he stopped the fumigation, and began to inhale the sulphurous acid spray. This he continued five or six times a day, taking about a dozen inhalations at a time with much perseverance for ten days. All this time he was taking great care of himself, avoiding exposure, and paying attention to clothing and diet. The only good Dr. M'Gregor noticed resulting from the use of the spray was, that the cough was somewhat softened, and the expectoration made easier. This was really the case, as he has noticed in several other instances since, but in other respects he cannot say that he experienced any benefit from it. He gave up the sulphur cure, and went off to the country for a change, which in ten days effected a thorough cure. In the hospital, not having a suitable room in which to isolate patients, Dr. M'Gregor was unable again to try fumigation, but the spray he has frequently tried with the following general results: In cases of chronic bronchitis, when other expectorants failed to loosen the sputum, he finds a few inhalations of the sulphurous spray doing so in a very successful manner; and where great dyspnœa exists on account of the stuffed-up bronchi, much relief often follows on its use. In cases of advanced phthisis, when the throat becomes parched and dry, with much thirst, which in many instances is not relieved by any amount of drink the stomach is capable of retaining, a few inhalations occasionally given afforded great relief and comfort to the patients. It seems to moisten and relax the fauces and throat as no amount of drink will do, and this without the bad effects of much drinking in these cases. It also loosens the spit in cases of phthisis, and obviates the necessity of administering expectorants, which too often derange the stomach and bowels, doing more harm than good. When the shortness of breath is very extreme, perhaps on account of the extensive destruction of the lungs, the patient cannot inhale the spray, as it interferes too much with the respiration, already labored and difficult. In these cases it should not be given; but when the dyspnœa is due not so much to this cause as to an accumulation of phlegm in the air-passages, it may be given with advantage; for generally speaking, such patients are more able to bear the exertion consequent on its inhalation at first, after which relief is speedily obtained. In sore throats, syphilitic and other, it relieves pain, and Dr. M'Gregor believes does some good as a disinfectant, but he has not yet seen any of the rapid and perfect cures so often attributed to it. Dr. M'Gregor uses a lotion of sulphurous acid in cases of chronic eczema and other skin affections with benefit, also in sloughing gangrenous ulcers, with the advantage of not only destroying smell, but of limiting the ravages frequently occasioned by gangrene.

ART. 110.—*On the Effects of the Inoculation and Ingestion of various Organic Substances, and principally of Tuberculous Products.*[1]

By Dr. DUBUISSON.

(*Gazette Hebdomadaire*, No. 33.)

The experiments were made at Clamart. M. Villemin demonstrated to us his mode of operation, and himself inoculated some of our subjects.

Two series of experiments were made: in one we introduced under the skin various organic substances; in the other we allowed tuberculous substances to penetrate into the digestive passages.

When cadaveric matter is inserted under the skin symptoms may be produced which differ according to the period at which they are presented and according to their intimate nature.

1. In a certain number of cases, animals die rapidly and without presenting at the autopsy sufficient lesions for the explanation of death. A rabbit, after an injection in the groin of five drops of cancered pus diluted with water, died on the following day. A rabbit, after the insertion into the right groin of six centimetres of thread dipped in cancerous juice, died on the sixth day. Two rabbits died on the day following the introduction, under the skin of the shoulder, of one gramme of tuberculous lung. A rabbit died on the sixth day after the introduction under the skin of the shoulder, of thread dipped in tuberculous expectoration. A rabbit, in which had been inserted under the skin of the shoulder 1½ centimetre of thread dipped in tuberculous expectoration, died on the sixth day. Finally, a dog died on the fifth day after the introduction of 50 centigrammes of cadaveric muscle under the skin of the right groin.

2. Sometimes the symptoms are produced less rapidly, but these, however, seem to depend upon the operation undergone by the animal. We possess but a single case of this kind; it is that of a guinea-pig on which M. Villemin had injected under the skin of the thorax some fragments of tuberculous lung from a rabbit, and which when killed two months later, presented at the autopsy gray granulations of the lungs. These small masses are more voluminous, less hard, and more irregular in size than the tubercular granulations; they are, moreover, regularly scattered over the whole of the lung, and are found as much at the base as at the summit. The microscopic examination, made with much care by M. Grancher, chief of the laboratory at Clamart, in comparison with granulations from the infant's chest, showed that they were not composed of tubercle. M. Grancher, relying upon their histological characters, saw in them small deposits of catarrhal pneumonia.

3. Finally, in all the remaining cases, nothing was observed, and the nature of the products employed had in no way modified the results of the operation. In the first place we injected fluid taken from the peritoneum of a man who had been dead for thirty hours. A rabbit died from marasmus one month after the injection into the groin of 12 drops of this liquid; an enormous abscess was produced, but there was no tubercle.

Another rabbit underwent in the first instance an injection into the groin of 12 drops of the same fluid; the animal lost a part of the scrotum from sphacelus; two months later a small portion of lung dipped in the pus of a metastatic abscess, was introduced at the base of each ear; the animal, when killed at the end of about nine weeks, more than four months after the first operation, presented no lesion.

A dog, weighing 20 kilogrammes, received in the groin 20 drops of peritoneal fluid; an abscess formed, but the animal recovered. One month later, one gramme of tuberculous lung from a man was injected under the skin of the shoulder; a vast abscess resulted. When killed about two months later the animal presented no lesion at the autopsy.

A guinea-pig killed five weeks after the introduction of tuberculous granula-

[1] Read before the Académie de Médecine, August 10, 1869.

tions under the skin of the groin, presented nothing abnormal at the autopsy. A rabbit sacrificed two months after some tubercular granulations had been introduced under the skin of the groin, presented at the autopsy but a small nodule of lobular pneumonia. A dog, inoculated in both groins by M. Villemin with tubercle from a rabbit, presented nothing at the autopsy, two months afterwards. The same occurred with a rabbit inoculated at the base of the ears by M. Villemin, and sacrificed two months afterwards. Finally, another rabbit, which had undergone a similar operation, presented at the end of two months, but two small masses of lobular pneumonia.

Two guinea-pigs which we had forced to swallow tubercular expectoration, presented nothing abnormal at the autopsy; one, which had taken in 9 grammes of expectorated matter, succumbed on the twentieth day; the other, which had taken in 50 grammes, did not live beyond the eighth day.

In other experiments we have forced dogs, rabbits, and during two or three months, to swallow variable quantities (from 300 up to 633 grammes) of fragments of tuberculous lungs at all periods of their evolution; these animals were afterwards sacrificed, and all their organs were found in a healthy condition.

The following conclusions have been drawn from these experiments:—

"1. Inoculated substances are most frequently inoffensive, the nature of the products employed having no influence upon the result.

2. They sometimes produce rapid accidents, and occasion death by a kind of poisoning.

3. They produce in certain cases lobular pneumonia, which is probably consecutive to the inoculations, and which may be confounded with tubercular deposit.

4. Tuberculous matter, when given by the stomach, sometimes occasions the death of the animal, which is poisoned as if by septic products.

5. Most frequently animals that eat tuberculous lung suffer from a malaise, the result of this bad alimentation, but they do not become tuberculous. Our experiments demonstrate then that tuberculosis is, in its essence, neither virulent nor contagious with the animals upon which we operated."

Art. 111.—*A Visit to some of the German Spas.—Carlsbad.*

By M'Call Anderson, M.D., Professor of Practice of Medicine in Anderson's University.

(*Glasgow Medical Journal*, August.)

Carlsbad, the King of German Spas, is a three days' journey from London, the shortest route from England being by Frankfort, Hof, and Eger. From Eger it is reached by coach in about six hours.

There is an iron spring, writes Dr. Anderson, and one which contains only carbonic acid, in the vicinity of Carlsbad; but the first is difficult of digestion and practically useless, while the last is exhilarating, and is, therefore, given to weakly people, although it is not much to be relied upon. The effects of these two springs prove, in the estimation of Dr. Seegen, one of the leading physicians of the place, that the benefit of most iron baths is due, not to the iron which (except in the case of the Franzensbad mud baths) he does not believe is absorbed by the skin, but to the carbonic acid which most of the waters contain, and which is exhilarating.

The celebrated springs (for the above are of little moment) are situated in the valley in the centre of the town, and extend over an area of about a quarter of a mile.

The waters are alkali-saline. Their temperature ranges from 116° to 165° Fahrenheit, which depends upon their deeper or more elevated issues. The temperature of the Sprudel is the highest.

The waters are colorless, and have a taste very like that of chicken broth. The analysis of the Sprudel yields the following results:—

Sulphate of soda	19.86 grains.
Carbonate of Soda	9.69 "
Chloride of sodium	7 97 "
Carbonate of Lime	2.37 "
" magnesia	1.36 "
" iron	0.02 "
Silex	0.57 "
Carbonate of strontia	traces.
" manganese	
Phosphate of lime	
Basic phosphate of alumina	
Fluoride of calcium	
	41.92 grs. in 16 oz.
Carbonic acid	11 cubic inches.[1]

The waters are indicated in almost all cases of *abdominal plethora*. They are not purgative, nor even aperient in the case of many; but it is a curious circumstance, seeing that its chemical composition is the same as that of the other springs, that the water derived from the "Rocquelle'' is most likely to open the bowels. In cases of constipation, such as occurs in persons of sedentary habits and who live generously, the treatment requires to be continued for some time, but the relief is all the more likely to be lasting. In *stomach affections*, and especially in *chronic catarrh*, associated with slight tenderness upon pressure, the waters are peculiarly efficacious. They are also useful in cases of *ulceration*, even when hæmatemesis is one of the symptoms, but that they must be given with great caution. In *chronic catarrh of the intestines*, with looseness of the bowels, or in cases in which diarrhœa is produced from the slightest causes, they are of great value.

But it is in *chronic affections of the liver* that the value of this Spa is most appreciated, although, of course, serious organic diseases cannot be expected to be even ameliorated; nay, they are often aggravated by perseverance in the use of the waters. In *hyperœmia*, *catarrh of the bile ducts*, and above all, in cases of *gallstones*, relief may be said to be certain. And their value in the last-mentioned complaint is enhanced by the fact that they not only favor the expulsion of existing, but also prevent the formation of fresh, calculi. They are likewise of service in the *early stage of cirrhosis*, and in *fatty and amyloid degeneration of the liver*. Most cases of *jaundice* due to removable causes are readily cured.

Dr. Seegen finds that patients laboring under *diabetes mellitus* are often greatly benefited. The general symptoms diminish in intensity, and the patients gain flesh, while there is a very great reduction in the amount of sugar excreted, even in severe cases, within a very few weeks. It is right to mention that some time after the treatment is stopped, there is a gradual increase in the quantity of sugar eliminated, but it does not regain its previous amount; so that while the waters are not curative, they frequently have a permanently good effect.

The waters are also very serviceable in cases of *gravel*, and in *gouty subjects*; and Dr. Seegen states that the albuminuria which is sometimes detected in English, but which he has never met with in German, patients, is greatly diminished, or even disappears altogether. On the other hand, they are injurious in cases of Bright's disease.

The Carlsbad waters keep well, and are to be had at Wm. Best & Sons, 22 Henrietta Street, Cavendish Square, London.

Carlsbad lozenges are almost exclusively composed of carbonate of soda, and are, therefore, of little use, except for heartburn; while Vichy lozenges are superior to them in this respect. Carlsbad salt is made by evaporating the waters to a certain extent, when the sulphate of soda is deposited on the sides of the wooden tubs in which the evaporation is conducted. With the exception of Glauber's salts, they contain very little of the other ingredients of the waters, and are very little better than them.

[1] Sutro.

The baths are of three kinds—plain mineral water, douche, and mud baths. The first are most used, and generally along with the internal administration of the water; while the last are only of service in so far as they act the part of large cataplasms in painful affections. The baths are clean, but small, and lined with zinc; very different, therefore, from those of Aix-la-Chapelle. A new bath-house has just been completed, which is very handsome, and which contains a ball-room, restaurant, and reading-room.

The climate is temperate, and the season extends from the 22d of April till the 22d of September, during which a band plays at the Sprudel every morning from six to eight A. M., when, for the most part, the water is taken.

It is well that it should be known that there is a law compelling visitors who engage private apartments to pay for 14, even if they should only remain a few days. A compulsory tax of five or six florins, or more, is levied upon those who remain at Carlsbad longer than eight days.

ART. 112.—*On the Employment of the Sulphites in cases of Purulent Infection.*

By Dr. GIOVANNI FERRINI.

(*Annali Universali di Medicina.*)

Dr. Ferrini relates two cases of purulent infection in which the use of the sulphites appears to have produced very beneficial effects. The sulphites employed were those of magnesia and soda, the former being used internally and the latter externally. Dr. Ferrini considers that the sulphites, in such cases as those which he records, not only strengthen the system and protect it from decomposition, but that they also act as preventives against purulent infection. He insists upon the necessity of giving the salts at the beginning of the disease, as they are then most efficacious. He observes that they are diuretic, and not cathartic, and that all their therapeutical action depends on their *antifermentive* properties. But the sulphites must be given with due care, and should not be administered in insignificant doses, or in combination with other remedies which act in a different or contrary manner. They should also be given with a sufficient quantity of water for their solution; the sulphite of soda is soluble in four parts of water, but the sulphite of magnesia requires at least twenty times its weight of water in order to be absorbed. Another indication is not to give the sulphites with acid drinks, for the acids absorb the base of the salts, and set at liberty sulphuric acid. Lastly, the sulphites should be given in sufficient quantity, and even an ounce a day may be necessary in certain cases.

ART. 113.—*On the Action of Chloral upon the Economy.*

By Dr. LIEBRUCH.

The following is the substance of a report communicated to the Academy of Sciences of Paris through M. Wurtz:—

Chloral is to be considered as trichloruretted aldehyde. Like trichloracetic acid, this body when dissolved in an alkaline solution, is decomposed to form chloroform.

It is known that, in the organism, alcohol, aldehyde, and acetic acid are subjected to complete oxidation, the ultimate products of which are carbonic acid and water. One may anticipate, therefore, that with chloral also there will be a decomposition in its latter products of oxidation; and should inquire whether chloroform, an intermediate product of this series, exerts its action in the organism.

The author has undertaken experiments upon animals with the hydrate of chloral. Frogs entered first into a period of sleep, then followed the period of anæsthesia; fatal doses produced paralysis of the heart. Here then we have effects completely analogous to those of chloroform. With rabbits the experiments had similar results.

Encouraged by this success, the author was led to experiment upon man. A lunatic, subject to epilepsy, and tormented by insomnia and delirium, received by injection 157 centigrammes of an aqueous solution of chloral. Five minutes afterwards he fell into a profound sleep, which persisted for four and a half hours. After awaking, the patient took his meal as usual.

The author cites two other cases in which chloral was introduced by the digestive passages in single doses of two grammes. It follows from these experiments that the effect of this agent takes place with great precision, and is unaccompanied by any unfavorable symptom, like the effect of morphia, for example.

ART. 114.—*On the Physiological Action of Chloral.*[1]

By M. DEMARQUAY.

(*Gazette Hebdomadaire*, No. 38.)

"I have experimented on a great number of rabbits, and have injected into the cellular tissues of these animals from 20 centigrammes up to 1.20 gramme, without having caused death in any of them; all in from fifteen to twenty minutes fell into a state of complete resolution, as if they had been put in a deep sleep. The duration of this sleep was between two and three hours, and however great had been the muscular resolution and the depression of these animals, they all recovered, and on the following day were in a marvellously good condition; I have been able to make use of the same rabbits in a series of experiments. The following appearances may be made out by attentively watching animals that have been narcotized by chloral:—

"The ocular and palpebral mucous membranes are injected. The ears are vascularized in a manner quite remarkable: one would think that these animals had undergone section of the great sympathetic, according to the fine experiment of M. Claude Bernard; this great vascularization, however, is not associated with an elevation of temperature. If one examines into the state of sensibility of the animals during the whole period of the experiment, an *exaltation* of their faculties may be made out; the slightest pinch of the tail, the ear, or the lips, excites unruly movements, and whining cries, such as are not heard when a healthy animal is irritated in the same manner. The pulse, under the influence of chloral, becomes extremely frequent, and finally cannot be counted. The animal temperature under the influence of this agent, taken in a large dose, is lowered by one-half, or even by one degree. Most frequently rabbits narcotized by chloral exhale by their nostrils the odor of this substance, which would lead one to suppose that it is not decomposed completely, if, indeed, it be decomposed in the blood. If one opens during life the bodies of the animals experimented on, congestion of the abdominal viscera will be made out. The vessels of the mesentery are turgescent, the mucous membranes are irritated, particularly that of the trachea. A good idea of this extreme vascularization will be obtained by sacrificing an animal which has not undergone injection. The central nervous system, the brain, the cerebellum, and the membranes are strongly injected; the same takes place with the cord and its membranes. I have never been able to notice any difference in the coloration of the great sympathetic, on account of its small size in rabbits; the microscope will not fail to show us the modifications which the nerve cells undergo. The muscles are very vascular; it seems to me that the arterial blood acquires a slight violet tint.

"What becomes of the chloral? For myself, I think that it is eliminated by the respiratory passages. M. Liebrech thinks that the agent which we study, possessing the property of becoming decomposed at its contact with a free alkali, must become decomposed in the blood, and that the chloroform resulting from this decomposition produces the observed phenomena. I cannot admit this view, because chloroform is an anæsthetic, whilst chloral has a very

---

[1] Communicated to the Académie des Sciences.

marked hyperæsthetic action. Many physiological questions remain to be resolved, and it will be necessary also to decide on the applications which can be ultimately made of this substance in the healing art. I have thought it my duty to publish these researches, as they differ so much in their results from those of M. Liebrech; still, we may add in conclusion that chloral is—firstly, a very powerful agent for producing muscular resolution, and, secondly, the most rapid of all hypnotics."

Art. 115.—*Second Report on Chloral.*

By M. Demarquay.

(*Gazette Hebdomadaire*, No. 40.)

The following report concerning experiments made on man with chloral was also presented to the Academy of Sciences:—

"I administered on twenty occasions chloral combined with syrup of Tolu. The solution was such that one teaspoonful of syrup contained one gramme of chloral. The patient took this preparation readily enough; it was not disagreeable to the taste, but left nevertheless a sensation of tartness felt particularly at the base of the throat. The medicinal agent was well supported, and, moreover, caused no bad symptoms. The dose varied from one to five grammes.

Of my twenty experiments, six were negative with regard to sleep. The rebellious subjects were all men. The patient who took five grammes of chloral was a man thirty-five years of age, whose throat I was about to cauterize; I was enabled to obtain but a slight slumber, lasting for three quarters of an hour. On the other hand, a woman enfeebled by an organic disease of the womb, after taking a single gramme of chloral slept quietly with two distinct renewals during the whole of the afternoon.

One may say, speaking generally, that weak and debilitated patients are much more sensitive to the action of chloral; and that the duration of its action or the length of the sleep is equally in proportion to this low condition.

In the fourteen cases in which sleep was complete (twelve women and two men), it generally came on in from fifteen to thirteen minutes after the administration of the agent. The sleep is light and in no way resembles that caused by chloroform. The smallest noise wakes the patients, but they instantly fall to sleep again. The slightest pain or a simple pressure gives rise to complaint, and the part of the body touched or pinched is immediately moved.

I would not undertake to assert that there is, in these cases, hyperæsthesia of the skin, but I can certify that the cutaneous sensibility is preserved, whatever may be the intensity of the sleep. It is consequently impossible to utilize this slumber in the practice of surgery. I derived, however, great advantage from the syrup of chloral in administering it to a lady upon whom I had performed a serious operation; immediately after the dressing, the patient took four grammes of chloral and at once fell into a slumber which lasted for the whole afternoon.

But though the slumber was calm and tranquil in many of my patients, it was to others agitated and disturbed by dreams and hallucinations; this condition was particularly manifested in women attacked with serious and painful organic diseases of the womb, and accustomed to take large doses of opium. In these cases the sleep was sometimes long, but agitated and mingled with moans; on waking, the poor patient earnestly demanded the habitual injection of morphia. This circumstance affords another proof that though chloral is hypnotic, it is in no way anæsthetic.

It should be mentioned, however, that the patient appeared on the following day to be unconscious of the evening's agitation.

When two or three grammes of chloral are given to an enfeebled patient, it is important, as sleep may be prolonged for some hours, to make him take beforehand some nourishment.

In my six negative cases, with regard to somnolence, there was one which particularly struck me; the patient was a young woman twenty-three years of

age, who had been weakened by uterine discharges. She took two grammes of chloral in order to remove an intense cephalalgia; but the agent, instead of producing sleep, determined very active excitement. The woman was in a state of ebriety during the whole day; she was extremely sensitive, and had a sharp appetite; insomnia lasted until the following day, when it gave way to great fatigue.

As the chloral was given in relatively feeble doses I had no occasion for making out any serious disturbance in the performance of the functions; the pulse varied only by a few beats; and with the respiration it was the same. As to the animal temperature, this was lowest for some few tenths of a degree below the usual point, to return again to the same height. In many cases the urinary secretion seemed to be incessant in amount; some patients passed their urine involuntarily in bed.

The following is what can at present be stated concerning the action of chloral:—

1. It has a well-marked hypnotic action, particularly on feeble and debilitated individuals.

2. The duration of its action is in direct proportion to this feebleness.

3. The slumber which it produces is generally calm and free from agitation, except in those patients who are the victims of acute suffering: this fact induces me to recommend chloral in diseases in which one desires particularly to bring about sleep and muscular resolution.

4. Finally, this agent may be given in a sufficiently elevated dose, and no bad symptom is produced after the administration of from 1 to 5 grammes.

Art. 116.—*On Chloral.*

By Benjamin W. Richardson, M.D., F.R.S.

(*British Medical Journal*, October 9.)

The following is a summary of Dr. Richardson's views: 1. Deep and prolonged narcotism can be safely produced by the hydrate of chloral. 2. During a portion of the period of narcotism, there may be complete anæsthesia with absence of reflex actions; a condition, in short, in which every kind of operation fails to call forth consciousnses. 3. During the narcotism, there are intervals of apparent exalted sensibility. 4. In the transition from drowsiness to stupor, there is no stage of muscular excitement; but in birds there is vomiting, as is common in the same animal in the second stage of narcotism from chloroform. 5. During the narcotism produced by the substance, there is invariably reduction of temperature. 6. The hydrate produces muscular relaxation; which relaxation extends to the muscles of volition, and also to the iris and muscular arterial system. From the condition of the muscles after death it may be inferred that this paralysis is in part due to change within the muscular structure itself. 7. The action of the substance on the nervous system is primarily on the sympathetic ganglia, afterwards on the cerebrum; and, finally, on the heart. 8. Recovery is followed by no bad results. 9. In fatal cases, the functions are destroyed in the following order: *a*, the cerebral; *b*, the voluntary muscular; *c*, the respiratory; *d*, the heart. 10. The substance, in small proportions, prevents, in some degree, the coagulability of the blood; and in large quantities, stops the process of coagulation altogether. In large quantities, it also destroys the blood-corpuscles, and produces general destruction of blood. But to produce deep insensibility, the dose administered need not be so large as to lead to serious derangement of blood. 11. The phenomena observed correspond with those observed under chloroform; and the balance of evidence is, that they are the result of the action of chloroform. 12. Therapeutically, the agent is to be accepted as the rival of opium. It promises to be useful in cases where there are increment of animal heat, muscular spasm, and pain. It will be worthy of extensive trial, in tetanus especially. The dose of hydrate of chloral for a child is seven grains; for an adult, the dose may be extended to one hundred or even one hundred and twenty grains.

ART. 117.—*New Experiments with Hydrate of Chloral.*[1]

By MM. DREULAFOY and KRISHALER.

(*Gazette Hebdomadaire*, No. 42.)

"It results from our experiments on rabbits that one may produce at will with hydrate of chloral exaggerated sensibility, or complete insensibility.

"Subcutaneous injections in moderate doses produce in animals well-marked excitability. Doses beyond two grammes introduced in like manner produce curious degrees of insensibility. This insensibility, in proportion to the increase of dose, becomes absolute and complete; it may continue for several hours.

"Chloral injected into the stomach of rabbits by means of an œsophageal tube will give less constant effects; these effects depend very much on the presence of food, in greater or less quantity, in the digestive tube. In every respect the effects obtained are analogous to those which are rendered by subcutaneous injections, but larger quantities of the agent are required, and the phenomena are controlled with greater difficulty.

"These experiments have supplied, with regard to the effects of chloral on the circulation and respiration, results which are given in résumé in the following conclusions:—

"1. Chloral in small doses excites sensibility; in elevated doses it reduces it gradually to complete anæsthesia.

"2. The narcotized animals pass through an anterior state of excitability.

"3. The animals in whom anæsthesia is general and absolute, may remain in this condition for several hours; they then almost invariably succumb.

"4. Sleep exists with hyperæsthesia as with anæsthesia; in the latter case the resolution is absolute.

"5. Chloral modifies profoundly the number and the rhythm of the movements of the heart; it causes progressive slackening of the movements of the diaphragm, and lowers considerably the temperature.

"6. The phenomena excited by chloral are, in many points, different from the phenomena caused by chloroform, although the anæsthesia is equal in the two cases.

"In fine, rabbits treated by doses exceeding 2.50 grammes are always rendered anæsthetic; by doses above 3.50 grammes they were rendered anæsthetic and killed. By doses below 1.50 grammes they were put to sleep, but neither rendered anæsthetic nor killed; with doses below 60 centigrammes no effect was obtained."

The authors intend to devote a future contribution on the points whether there be an intermediate dose, and a particularly favorable mode of exciting not only reduction of sensibility, but complete insensibility, without causing death.

ART. 118.—*Trials of Chloral at the London Hospital.*

(*British Medical Journal*, October 23.)

In last week's number of the *Lancet*, there is a notice of the employment, by Dr. Ogle, of the hydrate of chloral, in small doses (five or ten grains) with great benefit. We have seen it tried in the London Hospital in two cases, but in much larger doses. A dose of half a drachm was given to a man with disease of the elbow-joint; and, as this produced no effect in three-quarters of an hour, a second dose was given. No appreciable effect followed, except that the man complained of a griping pain in his stomach. He had complained of this before, however. A dose of half a drachm, on the same night, was given to a patient with disease of the ankle-joint; and then a second in about three-quarters of an hour. The patient slept a little during the night. He com-

[1] Communicated to the Académie des Sciences.

plained of a good deal of headache in the morning. The next night, this patient had three doses of half a drachm each, at intervals of half an hour. In half an hour after the last dose he was sound asleep. The sleep seemed quite natural. He woke two or three times in the course of the night; and when he woke in the morning, said he had been troubled with a frightful dream. He had no headache, and seemed well satisfied with his sleep. That night he had a dose of a drachm, without appreciable effect, and then half a drachm was given, after which he went to sleep. He did not sleep continuously, but, when he woke in the morning, was without "dreams" or headache, and felt quite refreshed.

The first patient did not care to have the medicine again the second night, but, on the third, he took a dose of a drachm without effect. A second dose of half a drachm sent him to sleep, but he woke in the night, the nurse said. In the morning he expressed himself as quite comfortable. The cases were under Mr. Hutchinson's care.

It appeared, therefore, that doses of half a drachm, at intervals of half an hour, were quite safe in adult males, and would procure natural sleep. In neither case was sleep produced within half an hour of the last dose. No further trials, however, were made, on account of the expensiveness of the drug. If Dr. Ogle's small doses should prove effectual in checking mental disquietude, the expanse will, of course, not be so serious an objection. The chloral used at the London Hospital was obtained from Mr. Squire.

PART II.—SURGERY.

SECT. I.—GENERAL QUESTIONS IN SURGERY.

ART. 119.—*Mr. Le Gros Clark's Lectures on Shock and Visceral Lesions, at the Royal College of Surgeons.*

(*The Lancet*, June 5.)

IN continuation of his subject of last year, Mr. Clark, on the 2d inst., devoted his first lecture to Injuries of the Brain and Spinal Cord and their Consequences. He commenced by apologizing for trespassing somewhat upon the province of the physician in a region where symptoms due to mere functional disturbance, to organic change, and to actual injury had so much in common. Tetanus was a malady essentially the same, whether idiopathic or due to an external injury; though the former was the more amenable to treatment, perhaps because the exciting cause was more accessible, or the disturbance more purely functional. Mr. Clark then sketched the main symptoms of tetanus. Pain in the epigastrium was one of the earliest. The obstinate constipation, frequent during the course of the disease, was not to be accounted for by mere spasm of the sphincter, but pointed, he thought, to an affection of the sympathetic. Symmetrical spasm was the usual type, but sometimes it was unilateral, corresponding to the position of the injury. In a boy in St. Thomas's Hospital this occurred in consequence of an injury to the ulnar nerve. In rare cases, delirium supervened towards the close of the disease.

Tetanus was occasionally met with in the lower animals, especially in horses. In them it was generally due to exposure to cold, and was as little amenable to treatment as in man. The most effectual system consisted in absolute isolation and undisturbed repose, from which they might draw a useful lesson in the treatment of a malady that depended for its sustenance so much upon extraneous excitement. The most acute case Mr. Clark had ever known to recover was treated by Mr. Travers, by injection of tobacco into the rectum. Prostration ensued so severe as to threaten life, but the tetanus was relieved and the patient rallied and recovered. Not much importance was to be attached to any pathological appearances recorded as occurring in tetanus, except those changes in the spinal cord discovered by Mr. Lockhart Clarke—wasting and disintegration in the gray substance, especially around the central canal throughout its whole length. These structural changes were probably not present in cases which recovered.

In studying these and other allied conditions, such as hydrophobia, epilepsy, hysteria, chorea, it was impossible to resist the conclusion that they were dependent on both centric and eccentric causes. Many of the eccentric cases were purely functional and remedial, whilst others of the same class were accompanied by organic change, and therefore resisted treatment. Whenever centric, the cause must be organic change, and recovery, as a rule, if not invariably, hopeless.

In conclusion, Mr. Clark discussed the question of the propriety of operative interference in some cases of fracture of the spine. He believed in the present state of knowledge, trephining to be unjustifiable. By post-mortem evidence the cases were excessively rare in which it could be of service; and in those in which the symptoms were sufficiently marked to justify interference, injury to the chord had occurred, far beyond repair; while those slighter cases, in which alone it would be likely to do good, were much more likely to recover, partially or completely, if untouched, than if complicated by so grave an operation.

Lesions of the Thoracic Viscera formed the subject of Mr. Clark's second lecture. The elasticity of the chest-walls, he remarked, physiologically essen-

tial for respiration, also protects the viscera remarkably from the consequences of external violence. Fracture of the sternum alone is rarely the consequence of direct violence, but is more commonly caused by forcible flexion of the spine. The fracture is then simple and transverse, and displacement of the broken bone is prevented by the strong lateral relations of the sternum. Fracture of the ribs, too, is more common from indirect than from direct violence; and the lung then mostly escapes, though local pleurisy usually ensues. The higher the rib fractured the more serious the injury, from the greater frequency of wound of the lung. Much hemorrhage in such cases is rare in civil practice, though wound of the lung commonly entails a little hæmoptysis and some local pneumonia. The shock in such instances is usually transient, but is now and then severe in contusions of the chest. In one case of a heavy weight falling on a boy's chest the collapse was profound, though his entire recovery in a few days proved that there could be no organic lesion.

Wound in the lung in fractured ribs is nearly always due to direct violence —a sharp circumscribed blow, or else forcible compression of the whole of the walls of the chest. Its pathognomonic sign is the escape of air from the tissue of the lung. Whether that escape is into the pleura or subcutaneous cellular tissue depends on the mechanical correspondence of the wound in the lung to that in the costal pleura, such as may be determined by adhesion between the two surfaces, or the degree of distension of the lung at the moment the fracture occurs. The rapidity of the spread of emphysema may be taken as a measure of the gravity of the injury to the lung. The accumulation of air in the pleura is sometimes considerable, so much so as to cause paracentesis to be contemplated. But when the distension is greatest, air ceases to enter the lung, or be pumped in the pleura, and then the lung heals and expands *pari passu* with the removal of the air. This removal is accomplished by the constituent gases being dissolved by the fluids of the part, and thus absorbed.

Of pulmonic hernia Mr. Clark relates an interesting case. A man was knocked kown by the pointed shaft of a vehicle, which struck his chest just below the clavicle. At the seat of injury at each inspiration a large crepitant tumor presented itself, which disappeared at each expiration, leaving a deep depression capable of containing a couple of ounces of fluid. At the spot there was a large gap in the chest walls from the absence of the second rib, which, near its attachment to the sternum, was displaced and driven in. Next day general emphysema commenced, and broncho-pneumonia set in, but the symptoms gradually subsided, and the patient recovered. The gap remained, but presented more consistence, and the inspiratory bulging was scarcely perceptible.

Contusion of the lung without fracture of the chest walls is rare, but may occur. Congestion of the lung is not an unfrequent consequence of pugilistic encounters, and may lay the foundation for the organic disease which so often proves fatal to those engaged in them. Serious functional derangement without lesion may occur from simple concussion of the chest, transient, and subsiding without ulterior results. There is partial arrest of the flow through the capillaries, causing engorgement of the vessels. This condition is evidenced by defective resonance, and other signs. The shock appears to paralyze the vasi-motor nerves. Death may occur under these circumstances, and that rapidly.

Penetrating wounds of the lung are rare in civil practice. Their chief danger consists in the early loss of blood. The risk of subsequent inflammation proving fatal is less than that of the hemorrhage. The pneumonia does not extend from the seat of injury. The lung implicated becomes permanently solid, and, unlike the plastic deposit in non-traumatic pneumonia, the fibrinous deposit in the lung is not absorbed without obliteration of texture, all the tissues being involved in the effort to repair the breach of substance.

Injuries of the neck and throat formed the subject of Mr. Clark's third lecture. The diagnosis of the wounds of the air-passages, he remarked, is easy. In cut-throat it is usually the upper part that is opened—rarely the trachea. The hemorrhage in such cases is often severe, especially when the wound is in the neighborhood of the hyoid bone, and to arrest it Mr. Clark has twice had

to tie the common carotid. After the first few days the chief danger is from the lung mischief that frequently follows. The amount of shock varies considerably, and is greatly influenced by the previous mental state of the patient. It may be trivial when the wound is the result of pure accident; while in suicidal wounds, where the previous moral depression has been great, death may result from pure shock. In one of Mr. Clark's cases, though there was not much hemorrhage, the temperature fell to 91° an hour after the injury had been inflicted. Sometimes bodily suffering is the motive for suicide; in one case it was an intense precordial pain, really dependent on a commencing attack of pericarditis, of which the patient ultimately died.

Scalding of the fauces and throat in young children is attended by a considerable amount of shock, and may be fatal from swelling of the glottis, or more frequently, from the subsequent pneumonia. Mr. Clark is skeptical as to the beneficial results of tracheotomy in such cases. He believes by far the most common cause of death to be inflammation of the lungs, produced, not by extension of inflammation to them, but by the nervous shock, causing congestion and its consequences, through the influence of the sympathetic and the pneumogastric. He cannot regard tracheotomy as an unimportant operation in a child, or as expedient except under the most urgent circumstances. The dyspnœa for which it is performed is partly dependent on the state of the lungs, and may be relieved by poultices, &c., when tracheotomy would be fatal. In many cases operated on, the pulmonary changes which are the immediate cause of death may be referred with more show of reason to the operation than to the original lesion.

The impaction of foreign bodies in the air-passages is not very common. Not more than two or three such cases have been under treatment in St. Thomas's Hospital during the last forty years. The symptoms vary according to the position of the foreign body. The inflammation excited by its presence often proves fatal when the obstruction to respiration does not.

After alluding briefly to the subject of foreign bodies in the pharynx and œsophagus, Mr. Clark concluded by drawing a parallel between the injuries of the brain and lungs. Both organs are contained in cavities which may be fractured, and that without injury to the contents; both organs suffer injuries of the same kind—concussion, laceration, extravasation of blood, &c. The vicarious performance of function dependent on the quality of each organ is more effective in prolonging life in lesions of the lungs than of the brain; but the relative mortality in either instance is due rather to the facility with which the disintegrated tissue and the products of inflammation are discharged from the chest than from the skull. There is a greater tendency in the lung to the limitation of the morbid action to the proximity of the injured part; in the brain the fatal issue from secondary cases is almost invariably the effect of the extension of inflammation, and consequent disorganization of tissue, involving some immediately vital part of the encephalon.

Art. 120.—*On Acupressure and Torsion.*

By J. Cooper Forster, F.R.C.S.

(*Guy's Hospital Reports*, vol. xiv.; and *British and Foreign Med.-Chir. Review*, October.)

The present remarks of Mr. Forster are in continuation of a former paper published in the Reports, and are founded upon fourteen cases from his own practice, together with two others. In five of them Mr. Forster used torsion alone, and in one case it was partially adopted, and in all successfully. One of the undoubted advantages of torsion is the absence of a foreign body of any kind in the wound; but Mr. Forster thinks that there are cases when the use of both torsion and acupressure may be advantageous. Although surgeons in general consider that the ligature is the safest plan for arresting hemorrhage, yet it must not be forgotten that there is danger of hemorrhage arising when the ligature is separating, and this danger is probably as great as the removal

of a pin. Mr. Forster states that for the last two years he has in no case used a ligature where any attempt has been made to obtain adhesion in a wound, or where he has been able to practise torsion; and thus he finds it difficult to see in what cases ligatures need be used at all.

ART. 121.—*Further Observations on the Treatment of Aneurism by Iodide of Potassium.*[1]

By GEORGE W. BALFOUR, M.D., F.R.C.P.E.

(*Edinburgh Medical Journal*, July.)

The facts stated in this paper tend to prove that iodide of potassium is not only curative in aneurisms already developed, but that it also acts remedially and prophylactically in the aneurismal diathesis.

ART. 122.—*On the Treatment of Aneurism by the Hypodermic Injection of Ergotin.*

By Prof. V. LANGENBECK.

(*Berliner klinische Wochenschrift*, No. 12; and *Gazette Hebdomadaire*, No. 29.)

The cases given in Professor Langenbeck's communication are incomplete. The author thinks, however, that as aneurisms are relatively of rare occurrence, it is desirable that investigations should be made as early as possible, in order to demonstrate the value of a new method of arresting the development, if not of bringing about the cure, of large tumors of this kind, which are inaccessible to surgical means. Ergot of rye is a valuable remedy in obstetrics, from its power of exciting uterine contractions, and arresting menorrhagia. One is evidently justified in concluding from this that ergotin acts upon the smooth muscular fibres, and excites their contractions. This consideration led Professor Langenbeck to experiment with injections of ergotin in a case of aneurism.

Case 1.—The patient was a man aged forty-five years, of a fairly robust appearance, the father of several children, and previously in good health. In the year 1864 he first noticed pains in the shoulder and right side of the neck, which extended to the corresponding arm. These were attributed to rheumatism, and treated without success by sulphur baths; they increased in intensity, and ultimately disturbed the man's rest; the arm also became weak. In September the patient, when looking in a glass, observed on the right side of the neck a swelling which presented marked pulsation. At the commencement of October he consulted Professor Langenbeck.

In the right sub-clavicular fossa there existed a pulsatile tumor larger than a pigeon's egg. The pulsations were prolonged across the triangular fossa to the inner part of the neck, which was a proof that the subclavian artery, as well as the innominate, participated in the dilatation. The cardiac beats were normal, but rather feeble for the stature of the patient. A bruit de souffle was heard over the aneurism, and also over the innominate artery. The pulse of the right radial was stronger, but beat a little later than that on the left side. The pulsations of the aneurism were intense, and the pains in the arm very severe. Professor Langenbeck commenced the treatment by applying the moxa over the aneurismal sac, according to the proceeding of Jacobson. From October to December a large moxa was applied on four occasions, and caused profuse suppuration. This plan resulted in amelioration; the pains ceased almost entirely, and the patient returned to his home, and from January, 1865, to the summer of 1868, was able to attend to his affairs; the aneurism had diminished slightly in size, but continued to pulsate. After a stay at the baths of Mirdray, the patient returned to Berlin on January 2, 1869.

---

[1] *Edinburgh Medical Journal*, July, 1867; and *Half-Yearly Abstract of the Medical Sciences*, vol. xxxi. p. 148.

The following was his condition at this period: The aneurism had acquired a very considerable size, and formed above the clavicle a swelling as large as the fist, the pulsations of which were so strong that the hand, when applied over it, was forcibly raised. The pulsations could be perceived even under the clavicle, which itself seemed to be considerably protruded. When the patient walked the pulsations were indicated by the rhythmical oscillations of the head. The sterno-mastoid and the triangular fossa were forced outwards; the pulsations of the right carotid, and of the corresponding superficial temporal, could not be perceived; the patient complained of violent pain in the right arm, which prevented him from sleeping; he could not lie upon his back, but rested in bed in the sitting position, and with the body inclined to the right side; in this position only was he enabled to procure constant, uninterrupted sleep; he was much affected by an increasing weakness of the right hand; he could not write, and finally was unable to sign his name; there was undeniable wasting of the hand, as in muscular atrophy; the inter-metacarpal space separating the thumb from the index finger was excavated, and the movements of these fingers were extremely imperfect; the flexors of the fingers and the muscles of the hand and thumb were paralyzed, and the sensibility of the hand was diminished, principally along the track of the ulnar nerve; the last joints of the fingers were swollen.

On January 6, M. Langenbeck injected subcutaneously, for the first time, an aqueous solution of ergot of rye. This, like the subsequent injections, was made in the morning, between eleven and twelve, and always under the integument covering the aneurism. On the following morning at the visit, the patient was in a state of delight, as he had been able to rest during the whole of the previous night, a phenomenon which he attributed to the injection. During the day after the injection, the patient could still sleep, and with a dorsal decubitus, the pain in the arm was diminished, the pulsations of the aneurism less powerful, and the tumor was considerably reduced in size.

Professor Langenbeck does not enter into too minute details of the history of this patient, but confines himself to the statement that from January 6 to February 17, altogether two grammes of ergotin were injected. The injections were made at intervals of about three days on an average, and the quantity used on each occasion was from 0.03 gramme to 0.18 gramme. Amelioration progressed uninterruptedly. The patient, who previously had been unable to hold a pen, handed over to Professor Langenbeck on February 10 a sheet of paper on which he had written his name perfectly well; and on the 17th, wrote without any trouble a long letter to his brother. The movements of the upper limb were re-established, and instead of its being necessary to suspend the arm in a sling, he now walked like any one else, and carried a stick in his hand. The aneurism still presented pulsations, but these were much less forcible than previously, and the tumor was sensibly diminished in its circumferential extent. The neck was flattened, and the triangular fossa internal to the sterno-mastoid re-established; it was, however, unfortunately, impossible to make sure to what extent the diminution of the tumor had taken place.

Ergot of rye is employed against other hemorrhages than those which take place from the uterus; hypodermic injections of ergotin were first employed by Eulenberg in a case of convulsive cough, with the idea that this agent acted as a narcotic, and the application of 1-18th or 1-19th of a grain was followed, according to this physician, by a diminution in the attacks of coughing. Drosche also employed those hypodermic injections in hemorrhage, and observed an immediate action. Professor Von Graefe reports that some years since he injected ergotin on a patient in order to arrest an hæmoptysis which had not previously yielded to any remedy, and which never returned after this plan of treatment. Professor Langenbeck believes in the advantages of ergotin as an hæmostatic, but asserts that he has not investigated this subject sufficiently to come to any final conclusion.

General symptoms due to the injections were not observed once after the introduction of from 0.18 gramme to 0.30 gramme of ergotin on two consecutive days; the patient experienced scintillation in the eyes, and complained of acute pain in the right shoulder; vertigo and vomiting, as indicated by Eulenberg, were not observed.

Langenbeck employed the aqueous extract which does not contain the ethereal oil, the supposed toxic agent of ergot; the solution was composed as follows:—

Bonjean's aqueous extract	2 parts.
Rectified alcohol	7 "
Glycerine	7 "

The syringe contained 0.18 gramme of this solution, but the whole of its contents was not always injected. The injection was always made under the skin at the superficies of the aneurismal sac. Hemorrhage was never produced.

Professor Langenbeck also gives a second case in which a single injection of 0.15 gramme of the aqueous extract of ergot of rye was followed by the complete disappearance of an aneurism of the radial artery, of the size of a filbert.

Arthur Steffens, a joiner, aged forty-two years, of robust appearance and with general good health, was admitted on February 14, in order to be treated for a wound received in the left humero-scapular region. On examination there was found, three centimetres above the articulation of the right hand, a tumor of the size of a filbert, which presented marked pulsation. The skin covering this was normal. The tumor was seated on the radial artery, which at this point was slightly bent into an arch. It was thought at first that this was not an aneurism, but repeated examination in the presence of several practitioners established the fact that it really consisted of a sacciform aneurismal tumor, having its origin from the inferior part of the radial artery. When the lateral margins of the tumor which extended beyond the artery were carefully seized between the fingers, the pulsations of the aneurism could be distinctly felt. These disappeared after digital compression, and after some seconds the tumor regained its original size. By compression of the humeral artery in the middle of the arm, the tumor disappeared rapidly and completely, and it afterwards gradually returned, with regular pulsations. After the compression had been discontinued, movements of rapid contraction in the fingers increased the size, and the pulsations, of the aneurism. The existence of a bruit could not be made out.

The patient declared that the aneurism had come on without any known cause some twenty years previously: it was very small at that time, but presented pulsations; it had increased in size slowly, and never been painful. For two years it had remained stationary.

On February 17, Professor Langenbeck injected under the skin covering the aneurism 0.15 gramme of extract ergot of rye in the form given above. On the following day at the time of the visit, the aneurism could not be found. At two in the afternoon, probably owing to the movements of the hand during a repast, the tumor had become much smaller, and presented feebler pulsations. On February 19 a slight erythema, with some œdematous infiltration of the surrounding cellular tissue appeared about the puncture. These two epiphenomena gradually disappeared in the course of about eight days, and no traces of the aneurism then remained.

Twenty-nine days after the injection M. Langenbeck made a very careful examination, and found that the radial artery even at the seat of the tumor, was in a normal condition. Moreover, forcible flexion of the finger no longer produced any change in the aspect of the artery, whilst formerly this movement had caused the artery to project. As the wound of the opposite arm was not yet cured, the limb on which the aneurism had been seated could not be left at rest, and was used by the patient for all ordinary purposes.

The original idea which had induced Professor Langenbeck to attempt injections of ergotin, that is to say, the hope of exciting contractions of the smooth muscular fibres, seems justified by this case, because in arteries of the calibre of the radial, the smooth muscular fibres are much more developed than in the subclavian artery.

ART. 123.—*Treatment of Traumatic Tetanus with the Calabar Bean.*

By EBEN. WATSON, M.D., Surgeon to the Royal Infirmary, Glasgow.

(*The Practitioner*, September.)

Dr. Watson records six cases of tetanus recently treated by him with Calabar bean. Dr. Watson has now treated ten cases of traumatic tetanus with this article, and had six deaths and four recoveries. He gives the following table of cases treated with the Calabar bean :—

	Cases.	Recoveries.	Deaths.
Dr. Watson	10	4	6
Dr. Alexander	2	2	0
Dr. Campbell	1	1	0
M. Bourneville	1	0	1
Mr. Ashdown	1	1	0
M. Bouchat	1	0	1
Dr. Macarthur	1	1	0
Drs. Boslin and Curron	1	1	0
Cases treated	18	10	8

"This statement, then," he remarks, "shows favorably for the bean. On the whole, however, I believe that the physiological effects of the drug form the best warrant for its employment in tetanus. We cannot expect infallible cures for any disease, far less for such a disease as this; but what I would urge is that, while we had no reason to look even for benefit from most of the remedies formerly used in cases of tetanus, we have reason from physiology to expect relief in that disease, even when we cannot hope for cure from the Calabar bean; and this has been marked by my experience of its employment. It will be noticed in reading the cases just related, that in all of them considerable relaxation was produced, and the patient often expressed himself as greatly relieved, even when there was little real or permanent improvement of his condition. Surely this is something gained, and surely it indicates that we may learn by-and-by to use the drug to still greater advantage, and cure a greater proportion of cases.

"The bean," he adds, "acts permanently on the spinal centres of motion, gradually obliterating voluntary power without affecting sensation. It early destroys the power of co-ordination of movements, and soon afterwards the susceptibility of reflex motions.

"While, therefore, the morbid anatomy of tetanus is by no means settled, yet from what is well known of its living pathology, it is evident that the bean, alone or combined with an anodyne, fulfils all the requirements of the case, and that it does so in a way more direct and physiological than is at all usual in therapeutics. We must not, then, be discouraged by a large proportion of deaths from tetanus, even in cases where the bean has been carefully and skilfully employed; neither must we think it useless, because sometimes it seems insufficient to combat this terrible antagonist. If in using it we are upon the right road, we can only attain to a better success by continuing to pursue that road until a better and safer has been discovered."

ART. 124.—*On Ligature of a Main Artery to arrest Acute Traumatic Inflammation.*

By C. F. MAUNDER, F.R.C.S.

(*London Hospital Reports*, vol. iv; and *British and Foreign Med.-Chir. Review*, July.)

Mr. Maunder observes that the withdrawal of blood in the treatment of inflammation has generally been recognized as a valuable method of treatment: and even although general bleeding has been little employed of late years, yet

the local abstraction of blood by leeches and scarification is still adopted with success. He argues that if the withdrawal of blood from the inflamed part is beneficial, it would be still more advantageous to cut off the arterial supply to the inflamed structures by means of a ligature, and, at all events, this plan is highly conservative, as no blood is withdrawn from the patient. Mr. Maunder then compares the results likely to ensue when an inflammation in or about the knee-joint, for instance, is treated on ordinary principles or by ligature of the femoral artery; and, although there is great danger in either case, yet he inclines to give his opinion in favor of the treatment by ligature. He then adverts to a case treated on this suggestion by Mr. Little, the patient being a man aged thirty-three, who had sustained a lacerated wound above the patella, opening the knee-joint. The results of the proceeding were very satisfactory, and, indeed, the application of the ligature was attended with immediate relief of the symptoms. But the question also arises whether the use of the tourniquet would not be attended with as much success as the ligature of the artery in such cases as are now alluded to; and, in fact, Mr. Jackson, of Sheffield, has treated successfully a punctured wound of the knee-joint by compression of the femoral artery with a tourniquet. Mr. Maunder therefore compares the results of ligature and of compression by the tourniquet; and while he admits the dangers attendant on the ligature, he thinks that they are probably exaggerated, the experience of surgeons being chiefly derived from cases of aneurism thus treated. In these last named cases the arterial system is known to be diseased, while in traumatic inflammation the arteries are in all probability healthy. Still, there are advantages in favor of the tourniquet, such as its great simplicity and freedom from direct danger, while, on the other hand, its employment involves the expenditure of valuable time, during which the disease may be making rapid and fatal progress.

Art. 125.—*On Blennorrhagic Rheumatism.*

By M. Alfred Fournier.

(*Annales de Dermatologie et de Syphilographie*, Nos. 1, 2, 3, 4.)

Etiology.—All that is at present known concerning the etiology of blennorrhagic rheumatism may be briefly expressed as follows:—

1. Blennorrhagia is the essential, effectual, and indispensable cause of the rheumatic symptoms which, taken together, make up what is called blennorrhagic rheumatism; it is this disease which determines these symptoms, and which, *by itself*, suffices to produce them independently of the concurrence of any other appreciable provocation. Reciprocally, these symptoms are never manifested without blennorrhagia; under the form and with the symptoms which are peculiar to it, the affection called blennorrhagic or urethral rheumatism is never manifested, unless in connection with blennorrhagia.

2. It is *urethral* blennorrhagia alone which is accompanied by this complication.

3. There exists in certain subjects an unknown, indefinable, but very marked predisposition to this variety of symptoms; such a predisposition and so powerful an idiosyncrasy, that with patients who are so unfortunately endowed, every fresh blennorrhagia is almost inevitably the origin of a fresh attack of rheumatism.

4. Blennorrhagic rheumatism is produced *in the female* as well as in the male.

The usual causes of ordinary rheumatism have no influence upon the production of blennorrhagic rheumatism. Cold, draughts, moisture, &c., which play so great a part in the etiology of the first disease, are absolutely strangers to the development of the second.

Recent researches, of which blennorrhagic rheumatism has been the object, have entirely modified the symptomology of this affection.

1. Blennorrhagic rheumatism is not merely an affection of the joints occasionally complicated with a special form of ophthalmia, but is a more general disease, which may extend to various organs, and present symptoms of inflam-

mation of certain tendinous and mucous sacs, of muscular rheumatism, of simple pains, of different forms of ophthalmia, of neuralgia of the sciatic and other nerves, of phlegmasiæ of the periosteum, and of inflammatory lesions of the endocardium, pericardium, venous system, of the rachidian and cerebral meninges, of the liver, salivary glands, &c. &c.

2. Blennorrhagic rheumatism may exist without any joint affection, and be manifested by special forms of ophthalmia, tendinous synovitis, muscular pains, neuralgia, or periostitis. In 15 out of 52 cases of this affection observed by M. Fournier, the joints remained perfectly healthy.

3. By making a numerical comparison of the joint affections and the non-articular manifestations of blennorrhagic rheumatism, one will arrive at the unexpected result that the latter are much more numerous and frequent than the former. Even in cases where the joints are affected, the non-articular manifestations are generally considerably superior.

4. Blennorrhagic rheumatism, though rarely affecting more than three or four joints simultaneously, presents a multiplicity and a dissemination of symptoms equal, if not superior, to what are observed in simple acute rheumatism. Several symptoms may be affected, and these may be produced, either at the same time or in succession, arthropathies, attacks of synovitis, ocular phlegmasia shifting from one eye to the other, acute hygronide, periostitis, muscular pains, &c. Two cases of blennorrhagic rheumatism are related by M. Fournier, to confirm the above statements; in one the local morbid symptoms amounted to 18 in number, and in the other to 27.

The articular lesions of blennorrhagic rheumatism present four different forms.

1. The form of hydrarthrosis.
2. The rheumatic or arthritic form.
3. The painful form (simple arthralgia).
4. The knotty or pseudo-gouty form.

The form of hydrarthrosis is characterized by relative ease of the joint, by the absence of local or general reaction, by a remarkable abundance of effusion, and by a tendency to chronicity. This has hitherto been generally considered as the common form of blennorrhagic rheumatism, but it really occurs much less frequently than is supposed. From M. Fournier's statistics it presents a much lower rate of frequency than other manifestations.

The rheumatic or arthritic form, presents symptoms resembling those of an attack of acute simple rheumatism, or of an ordinary articular phlegmasia. A case is reported of blennorrhagic arthritis of the elbow, terminating in suppuration. This, M. Fournier states, is the only authentic case in science of such a mode of termination.

Simple Arthralgia.—In certain cases rheumatic blennorrhagia is met with under the form of simple articular pains. The joints thus affected present to the most minute examination nothing abnormal; they preserve the plenitude of their movements, they are neither red nor swollen, they can be moved without any crackling sound, and on pressure are scarcely tender, and often absolutely painless. Pain with movement of the joints is the only symptom by which this affection is characterized. Thus blennorrhagic arthralgia may be observed under different circumstances—first, in the course of recent blennorrhagia, and coincidently, in general, with other symptoms of blennorrhagic rheumatism; second, with long-standing blennorrhagia, and then most commonly without other manifestations.

The knotty, or pseudo-gouty form, is a complex affection, involving not only the joints but also the peri-articular fibrous tissues, and even the periosteum. This form is characterized by the singular deformity which it gives rise to in the joints, which consists in peri-articular swellings, apparently resulting either in hypertrophy of the osseous extremities, or in hyperplasia of the peripheral fibrous tissues, and constituting about the joint nodosities, which present some analogy in their aspect to the deformities met with in gout. According to the case and the age of the patient, the joint thus affected is painful or free from great tenderness, rosy, or without abnormal coloration, completely immovable, or susceptible of imperfect motion. To the touch the affected part is sometimes found surrounded with diffuse solid effusion; at others, on the contrary,

the swelling gives the sensation of a subcutaneous osseous tumor, and of a hyperostosis of the articular epiphyses. This form of blennorrhagic rheumatism has been met with in the phalangeal joints, in the metacarpo-phalangeal joints, in the carpo-metacarpal joints, and in the joints of the great toe. The blennorrhagic origin of this form of articular lesion is proved by the following facts: In all cases without exception, in which they have been observed, they have always coincided with other unmistakable manifestations of blennorrhagic rheumatism; in all cases, without exception, they were presented in non-rheumatic and non-gouty subjects; and in almost every instance they were manifested in those peculiar subjects with whom every blennorrhagia is an almost certain origin of rheumatic complication. The gouty form of blennorrhagic rheumatism has generally a long duration, lasting for several months.

Blennorrhagic periostitis and periostosis, though seldom recognized and generally confounded with the articular manifestations of blennorrhagic rheumatism, are of pretty frequent occurrence. This variety of blennorrhagic lesions presents two forms—one of simple inflammatory fluxions of the periosteum (periostitis); the second of true tumors adherent to the periosteum, and resulting, in all probability, from a plastic infiltration between the membrane and the bone (periostosis).

Blennorrhagic Rheumatic Periostitis.—It frequently happens that the following symptoms are observed in the course of an attack of blennorrhagic rheumatism: Pain is felt by the patient at some circumscribed spot over a bone; on exploration, one learns that very acute suffering is excited by pressure at this part, which is generally limited in extent, irregular, and of the size of an almond or franc piece. Without this part, and in the neighboring tissues, pressure causes no painful sensations. At the seat of tenderness, there is generally some swelling of the tissues, forming a slight projection. In rare instances the integument is somewhat congested, and of a rosy hue. This tenderness, and the slight swelling of the tissues, persists for a few days, and then yield and disappear without any result. In some very rare cases, however, the tumefaction persists, and increases, and produces upon the bone an apparent plastic deposit, which forms a veritable periostosis. M. Fournier attributes this train of symptoms to a slight circumscribed inflammatory fluxion of the periosteum. The most frequent seat of this affection is the subcutaneous portion of some long bone, as the tibia and ulna; it has also been met with on the spinous processes of the vertebræ.

The best treatment, according to M. Fournier, of these lesions, consists in the application of a small flying blister *loco dolenti*, or cupping. These means give rapid relief, and the cure is then readily perfected, by the application of tincture of iodine.

Blennorrhagic Periostosis.—In certain cases, which are not absolutely rare, the periostitic lesions, which have just been described, instead of becoming resolved, give rise to the formation of solid exudations, which constitute true tumors (periostoses) at the affected parts. The tumor consists in a swelling on the surface of the bone, and, apparently, has its origin in the periosteal tissue. It is flattened and diffused, immovable, and adherent to the bone, painful at first, but becoming less and less tender; resistant, hard, generally small, but susceptible in certain cases of acquiring a pretty considerable size. When once developed the tumor is of long duration. It may persist, in spite of all treatment, for several months. M Fournier has observed that they nearly always terminate by resolution, but he cannot affirm that this is constant.

ART. 126.—*A Severe Case of Struma; Remarkable Benefit by the Waters of the Woodhall Spa.*

Under the care of Mr. PAGET.

(*The Lancet*, June 5.)

We publish the following case from notes kindly supplied to us by Mr. Henry T. Butlin, late house surgeon of St. Bartholomew's Hospital, because of the remarkable effect which was produced upon the patient by his stay at the Wood-

hall Spa, in Lincolnshire, to which he was sent by Mr. Paget. It would seem likely that this Spa offers peculiar advantages in cases of strumous cachexia.

J. B——, aged twenty-four, married, by trade a shoemaker, was admitted into St. Bartholomew's Hospital in July, 1868. Thin, pale, and emaciated. He suffered from a strumous abscess on either side of the neck, a large one between the shoulders, and a deep abscess at the top of the sternum, exposing the bone. From all these there was profuse discharge. He complained of pain at the sternum, extending to the back. His appetite was extremely bad; his tongue red and dry; his pulse slow and very small. Frequent attacks of diarrhœa had helped to bring him into the miserable state of exhaustion in which he was admitted. He was first put upon a nourishing diet of essence of beef, eggs, milk, together with a large quantity of stimulants; but, in spite of all, he remained for some time in so precarious a condition that his life was despaired of. The wounds were dressed with a lotion consisting of one drachm of tincture of iodine, one drachm of glycerine, and four ounces of water.

In August, Mr. Paget kindly offered at his own expense to send him to the Woodhall Spa for a month; but the patient's health was such that for some days he was quite unfit to be moved. He fortunately rallied, however, and it was thought he might safely undertake the journey. Nevertheless, it was scarcely hoped that he would be seen alive again. However, a month afterwards he walked to the hospital to show himself. He was much stouter; pulse stronger; tongue clean and moist; appetite good. The deep wounds from which he had suffered were nearly healed, and the attacks of diarrhœa had ceased.

Mr. Cuffe has supplied us with the following notes of progress and treatment whilst at Woodhall.

Six ounces of the water, tepid, daily (except when the diarrhœa was urgent); bath, 95°, alternate days, half an hour; nourishing diet, with, during the first week, three ounces of brandy daily; afterwards half a pint of porter each day. The wounds were dressed with lint wrung out from Spa-water. He had a severe attack of diarrhœa during the second week of his stay, and this prostrated him to such an extent that his life was for some time despaired of. For this he took chloric ether, morphia, aromatic confection, and brandy. From this date he gradually improved in strength and appetite until he left the Spa.

Art. 127.—*The Treatment of Nœvus.*

By Henry Batemam, F.R.C.S.

(*The Lancet*, November 6.)

The treament consists in the application of a tartarized antimony plaster to the surface of the tumor, and allowing it to remain until pustules resembling smallpox are produced, and sometimes still larger. The plaster Mr. Bateman has used is ordinarily made by having one part of antim. tartarizatum mixed with two parts of melted empl. resinæ, and then spread upon thin leather or linen. It ought to cover the entire nævus completely, but need not extend beyond it. If it be detached from any cause before it has produced a sufficient amount of inflammation and pustulation it should be renewed immediately. If there be too much inflammation, poultices and fomentations of warm water may be applied. Should the skin be unusually insusceptible, or the nævus unusually thick, equal parts of tartarized antimony and resin plaster may be used.

With comparatively thin nævi the former strength is amply sufficient, and sometimes a single plaster will produce inflammation and pustulation enough to effect a cure. Should the nævus be thicker than usual the stronger plaster may be used, and it may be repeated again and again until the nævus sloughs.

Art. 128.—*On the Treatment of Old Luxations.*

By M. Lafaurie.

(*Thèse de Paris; Archives Générales de Médecine*, No. 5.)

The author concludes his work with the following propositions:—

When a luxation remains unreduced, a new joint is generally formed, which becomes movable and capable at length of replacing the normal articulation.

Exercise increases the mobility and modifies the form of the joint, so as to render it fitted for performing movements often very extended.

A luxation which cannot be reduced ought not to be abandoned, for it is yet possible to do much for the patient.

The surgeon may in course of time re-establish gradually, and without violence, the functions of the injured limb to the satisfaction of the patient.

From this it results that if in presence of a luxation, whatever may be its date, any danger be revealed by an attentive examination, it is a better plan to seek a re-establishment of the movements of the joint than to attempt reduction.

An excessive resistance of the muscles on the slightest traction, an extensive engorgement of the soft parts, atheromatous degeneration of the axillary artery, and, generally speaking, any lesion of the vessels and nerves in connection with luxation of the shoulder, are all contra-indications to attempt at reduction by force.

Force, in very old luxations, should respect certain limits, which vary according to the patient and according to the lesion, and which it is difficult to appreciate in each special case.

These rules being laid down, M. Lafaurie gives the following instructions as to the treatment of unreduced luxation of different joints.

The shoulder.—Subcoracoid and subglenoid luxations ought to be reduced up to the end of the third month. Intra-coracoid and subclavicular within the second month. The reduction of the subspinous and the subacromial luxations may be attempted at a more advanced period, at the fifth month, and perhaps at the sixth, as it is possible to act directly upon the luxated extremity, and there is but little danger to fear.

These limits may be exceeded if the conditions seem favorable; provided the surgeon avoids producing an excess of force, which might prove hurtful.

Forearm.—Reduction should be attempted up to the end of the second month.

This limit might be exceeded, but it is necessary to recollect that an unreduced forearm may become through exercise almost as useful as its sound fellow.

Hip-joint.—Reduction should be attempted up to the end of the second month. Beyond this period good results are rare, and the number of successful cases does not exceed that of failures.

Art. 129.—*On Extension with Weights.*

By Dr. Vinzenz Czerny.

(*Wiener Medizinische Wochenschrift*, xix. 35–37; *Schmidt's Jahrbücher*, No. 8.)

In Billroth's clinique extension is applied in the treatment both of contractions remaining after old inflammatory affection of joints, and also of recent inflammations. A long strip of adhesive plaster, about one inch and a half in breadth, is applied to the outer and inner sides of the foot, the two ends being carried upwards as far as below the condyles of the femur, whilst the centre of the strip forms a sling which extends about four inches below the sole of the foot. The sling thus formed is inclosed and made fast by circular strips of plaster applied round the leg. To protect the ankles from pressure, the sides of the free portion of the sling are kept asunder by a piece of wood about five

inches in breadth. To the middle of this piece of wood is fastened the extending cord, which is carried over a pulley fixed to the edge of the bedstead, and supports a sandbag or weight, of from two to eight pounds, according to the age of the patient. The weight is to be increased gradually, but need scarcely ever exceed eight pounds. Counter-extension is only applied when heavy weights are used.

In affections of the hip-joint the body of the patient is best fixed by means of a linen bodice, to the axillary portions of which are fastened two straps, which are tied to the back parts of the bedstead. Should extension of the knee-joint be required, it is most convenient to carry the counter-extensions from the thigh. A well-padded band is applied round the thigh, close above the femoral condyles, and from the sides of this two cords are carried obliquely outwards and backwards, to be fastened in a knot at the side of the bedstead. In cases of contraction at the hip-joint, with much adduction and inversed rotation of the thigh, it is better to use the gypsum knee-cap, to the inner side of which can be fastened a small staff of wood, about six inches in length. This should be placed vertically on the gypsum bandage, and at its point the extending cord is to be fastened. This runs over a pulley placed to one side, and when weighted powerfully rotates, and at the same time abducts the thigh. A binder placed round the pelvis, from which an extending cord passes over a pulley on the sound side of the body, serves as a means of counter-extension.

In the case reported by Dr. Czerny both forcible and prolonged extension were carried out; not exclusively the one or the other, but supplementarily. When success is not obtained with one method, the other is tried; and a second attempt at forcible extension often succeeds much better when prolonged extension by weight has been employed. There are some cases in which the good results of the immovable apparatus applied after forcible extension are manifest; of twenty-one reported cases there were twelve of distortion of the knee-joint, five of which resulted from injury, one from inflammation after delivery, two from exposure to wet and cold, and five from some undetermined causes. In one case the contraction was caused by the cicatrices of syphilitic ulcers. The first seven were cases of contraction, the other five cases of florid inflammation. In two cases prolonged extension alone sufficed for a cure; in one case the same treatment associated with division of the tendons of the biceps, semi-membranous and semi-tendinous muscles, restored the utility of the limb. In four cases prolonged extension was used as an auxiliary to forcible extension, and in most with very good result. In one case forcible extension alone was followed by excellent results. In the five cases of acute inflammatory disease, straightening was generally attempted through long continued extension, in one case with, in another case without, especially good result. In two fatal cases the treatment was not in fault, but death was owing to tuberculosis and suppurative inflammation. In the composition of the immovable bandages either gypsum or water-glass was used. It is certain that with contraction of the knee an attempt at prolonged extension should be made, since this method is much less liable to cause relapses of inflammatory symptoms. The febrile action is almost nil, whilst after forcible extension tolerably sharp fever often comes on. Even when forcible extension is made, it is not carried out to too great an extent; one may rest satisfied with a slight degree, and carry out the rest of the treatment with prolonged extension. With very painful acute inflammatory affections of the knee-joint one would rather decide upon the plan of rapid restoration of the position of the limb under chloroform than upon the very troublesome application of an extension apparatus; but upon this point indeed very long investigations are required. Certainly, the absolute immobility of the limb in a firm bandage after straightening with the simultaneous energetic application of ice leaves nothing to be wished for. Unfortunately, the hip-joint, on the other hand, cannot be kept at perfect rest by any apparatus, since the patient is always able to twist the pelvis and vertebral column.

Of nine reported cases of diseases of the hip-joint, two were contractions, and seven acute inflammations. The causes were, in six cases, injury, in one, scarlet fever, and, in two cases, undetermined. In the cases of contraction,

straightening was followed by a good result; in one case there were contractions of both knees and both hips. When forcible extension is difficult, prolonged stretching can hardly be very effectual, as the pelvis cannot be fixed. On the other hand, it renders good service with acute inflammation so long as there is active muscular contraction, because this contraction is caused through reflex action set up by the pressure of the painful joint ends upon each other, which pressure is diminished by the dragging of the weights. This pain-relieving action in three cases was quite striking. The influence of the extension upon the perfect healing of the inflamed joint was less certain, as the number of cases was too small to afford any proof. The extension through strips of adhesive plaster was supported for several months. The method of extension, Dr. Czerny states, permits of improvement, and he directs the attention of surgeons to Mr. Barwell's splint, devised with the view of sparing the patient a constant confinement in bed.

ART. 130.—*On the Causes of Speedy Death after Certain Operations and Wounds.*

By Dr. AR. VERNEUL.

(*Gazette Hebdomadaire*, May 28 and June 18.)

The following conclusions are given by the author at the end of an elaborate article on traumatic lesions :—

1. There are some cases in which death rapidly occurring after an operation or an accident cannot be accounted for either by the extent of the primary lesion, or by the development and extension of inflammatory symptoms set up by the wound.

2. Death, in these cases, seems to be due to a rapid change in the blood acting in the manner of septic poisons.

3. This morbid change, the nature of which is yet but little known, is developed by preference in subjects who are predisposed to its attacks by an anterior visceral lesion or by an abnormal state of the fluids.

4. This fact seems established with regard to alcoholism, diabetes, albuminuria, and renal lesions, but to this list it is right to add other states less frequent and less recognized, but, according to M. Verneuil, quite as influential; these morbid conditions are uræmia, leucocythæmia, various cachexiæ, lesions of the spleen and liver, cirrhosis, steatosis, amylosis.

5. Even when these anterior pathological conditions accidentally complicated with traumatism do not cause speedy death, they do not react less on the local phenomena of which the traumatic lesion is necessarily the seat. They impede or destroy the various stages of the reparatory processes and give rise to many affections of the wounds, which take the name of complications and often acquire a very considerable gravity; these are erysipelas, lymphangitis, diffuse inflammations, gangrene, secondary hemorrhages, &c.

6. The knowledge of these facts is of the greatest importance in order to establish the prognosis, to lay down the indications and contra-indications for operation, to direct the local and general treatment of wounds, and finally to appreciate equitably statistical results.

ART. 131.—*Cases Illustrating the Relative Value of Excision and Amputation.*[1]

By J. H. BARNES, Consulting Surgeon, Liverpool Workhouse Hospital.

(*Liverpool Medical and Surgical Reports*, October.)

The author brought forward a number of cases of excision of the elbow, wrist, hip, knee, ankle, and tarsus, and compared their results with those of

[1] Abstract of a paper read at a meeting of the Liverpool Medical Association.

amputation. His general conclusions were as follows: That in making a comparison between excision and amputation, we have to consider, 1st—the relative mortality of each operation. 2d—the duration and nature of the progress towards recovery. 3d—the nature of the results. Excision is favorable in case of the elbow joint, but there are two dangers—viz., bony anchylosis, from the removal of too little bone, and a useless appendage from the removal of too much bone, or the too early extension of the limb. As regards the wrist, it is very difficult to excise it, without injury to the tendons, which would render the operation comparatively valueless. Excision of the hip-joint is decidedly unfavorable. No general answer can be given in respect to the knee-joint, each case being decided on its own merits; the danger to life is greater in excision than in amputation, and the progress towards recovery is often tedious. Where the disease is the result of injury, or where the constitution is not worn out and exhausted, or of a thoroughly strumous character, excision may be performed. The results of excision of the ankle joint are not favorable, and it is a very difficult operation. The cases in which he had excised some of the tarsal bones, all did well.

Mr. Barnes gave the following as his experience of these operations required for diseased conditions of the several articulations.

Of the elbow-joint he had had seven excisions, and all recovered.

The wrist-joint he had partially excised once.

The hip-joint he had excised twice, and both cases died; while in one instance he had amputated through the joint with success.

The knee joint he had excised six times, with two recoveries. He had amputated above or through the joint in seventeen instances, of which twelve recovered.

In one instance he had excised the ankle with success; of eight amputations below the knee, four recovered.

He had excised the tarsal bones (os calcis, cuboid, and cuneiform bones), and all these cases recovered.

Of thirteen amputations of the ankle-joint (for the most part according to Mr. Syme's method), eleven made good recoveries, and two died.

Art. 132.—*Treatment after Electrical or Lightning Stroke.*

By Benjamin W. Richardson, M.D., F.R.S.

(*Medical Times and Gazette*, September 25.)

When an animal has received a lightning stroke or an electrical shock which at one shock paralyzes the heart, the death is the most complete and sudden of all deaths; nothing, indeed, admits of being done. But in many cases the action of the heart continues after the respiration has ceased and after complete unconsciousness, and it might be expected in these instances that some line of treatment would be possible which should restore respiration and the other functions of life. In most cases every means which may be devised will fail; but there are three methods of recovery which have been employed, and all of which have been tested by experiment on the inferior animals with varying success. Dr. Richardson notices them in the order of their value.

Venesection.—The first step to take, if called to a person stunned by lightning, is to draw blood from a vein. Dr. Richardson should himself be inclined to draw from the external jugular vein, and to lay the body perfectly horizontal, so as to get an easy outflow.

Artificial Respiration.—Dr. Richardson does not attach any importance to artificial respiration as a primary method of restoring animation after lightning shock, but he thinks it would be an admirable adjunct to treatment by free venesection. Directly the heart were set at liberty from its bonds, the contraction of the right ventricle, effectively made, would send a wave of blood into the pulmonary circuit; and if then that charge of blood should be allowed, by means of artificial respiration, to meet a charge of fresh air, the best results might naturally be anticipated. The author lays down, as the second import-

ant rule in all cases of shock by lightning, that, so soon as a vein can be got to yield blood, the lungs should be gently and steadily charged and emptied of air by the action of a double-acting bellows.

Electrical Excitation.—Paradoxical as it may seem, it is nevertheless true that electrical excitation has been proposed as a means of recovery from electrical and lightning shock. The practice of electrical excitation as a remedy for shock from lightning or electrical discharge, proposed by Mr. Kite, a writer of no mean pretensions in the last century, Dr. Richardson discountenances.

Art. 133.—*On the Water-glass Bandage.*

By Dr. Flamm.

(*Wurtemb. Corr. Bl.* xxxix. 5; *Schmidt's Jahrbücher*, No. 7.)

Dr. Flamm has used the above-mentioned bandage in twelve cases. He applies it in the following manner: After reposition of the fracture the limb, with the exception of the fingers or toes, is enveloped in a flannel bandage, the various projections at the same time being covered by lint or wadding. He then commences to apply round the limb a moistened linen roller, the first few turns of which are made without the application of the water-glass, in order merely to protect the flannel bandage. The water-glass is afterwards applied to the inner side of the roller by means of a paint brush or with the hand. Finally, the bandage is smoothed by the hand, and a last coat of water-glass applied. For the following three or four days the limb is kept in wooden splints, as the water-glass bandage requires two or three days for complete hardening. Subsequently splints of pasteboard are used. In case of compound fracture an orifice can readily be made in the bandage.

The following are the supposed advantages of this apparatus :—

1. The cheapness of the material.
2. The facility of application even with inexperienced assistants.
3. In the firmness which it possesses, in common with other hardened bandages, all of which it surpasses in its lightness.
4. In the fact that the perspiration from the skin is not interfered with in spite of the fineness and impermeability of the bandage.
5. In the readiness with which it can be removed without the use of instruments.

This can be easily done by applying warm water over the bandage either with a sponge or from a watering-can. The apparatus is then loosened, and can thus be readily removed.

Art. 134.—*On the Seminal Fluid in Disease.*[1]

By M. Liegeois.

(*Gazette Hebdomadaire*, No. 22.)

M. Liégeois has studied the influence of diseases upon the composition of the seminal fluid in the following order: 1. Acute or chronic diseases not connected with the generative apparatus. 2d. Diseases of the testicle and epididymis. 3. Lesions of tissues bordering upon the testicle and epididymis. 4th. Diseases of the cord. 5th. Spermatorrhœa.

The following conclusions have been derived from the author's researches :—

1. Every healthy man, in adolescence, adult life, or old age, having no anomaly, malformation, and no traces of old affections of the organs of generation, has in his seminal fluid the material elements of fecundation.
2. Acute or chronic, organic or constitutional maladies, do not seem to influence in the adult the spermatic secretion to the point of inducing azoospermia; with the old man, on the contrary, this is often the consequence.
3. Gonorrhœal epididymitis nearly always arrests in a definite manner, if it

[1] Communicated to the Société Impériale de Chirurgie.

be bilateral, the secretion of zoosperms, and becomes thus a cause of sterility. When the affection is unilateral it provokes sympathetically a diminution in the quantity of spermatozoids, furnished by the healthy testicle, and thus seriously influences the fecundating properties of the seminal fluid. Bilateral or unilateral epididymitis of a non-specific character, has by no means the same degree of gravity.

4. Affections which attack the parenchyma of the testicle are always serious with regard to sterility. Infecundity consecutive to double syphilitic orchitis may disappear after an appropriate treatment.

5. Peritesticular or perideferential lesions do not seem to have any marked influence upon the secretion and excretion of the spermatic fluid, with the exception of varicocele, which, when it has arrived at a certain stage, induces testicular atrophy.

6. Spermatorrhœa may, although exceptionally, bring on sterility in some subjects.

ART. 135.—*On the Theory of Suppuration, and the Use of Carbolic Acid Dressings.*[1]

By EBEN. WATSON, M.D.

(*Glasgow Medical Journal*, November.)

After adverting to the older theories of the formation of pus, Dr. Watson dwelt more at length on the septic theory, according to which suppuration is considered as a kind of fermentation promoted by the growth of living animal and vegetable matters floating in the air; and he referred especially to Dr. Lemaire's views about the production of pus by the action of the air causing fermentation. Dr. Watson contended that the presence of germs in the air is very doubtful—that he had not found vibriones in pus—that the presence of those germs was not necessary to its existence or formation, and that the putrefaction was caused by the oxygen of the air combining with tissues either deprived of life, or in which the vitality is very small. He next proceeded to explain what he believed to be the rationale of the use of carbolic acid dressing. Its action (according to Dr. Watson) is mainly attributable to two effects, which all antiseptic substances produce, viz.: First, it coagulates albumen, and thus renders the surface to which it is applied firmer, and enables it to resist the action of the air. Second, it keeps in the fluid discharges, and since the carbolic acid is volatile, and contains a large percentage of carbon, it feeds the oxygen of the air, and saves the carbon of the tissues.

ART. 136.—*Contributions to the Study of the Cicatrization of Wounds.*

By Dr. GIUSEPPE RUGGI.

(*Bulletino delle Scienze Mediche; Gazette Médicale de Paris*, No. 34.)

I. *On obliteration of the wound in operations for hernia.* The author commences with the following proposition: The obliteration of the wound after an operation for strangulated hernia may be attempted by two modes, that is to say, by first and by second intention; but union of the wound by first intention (in operations for strangulated hernia), which is constantly practised, and recommended in all cases by many surgeons, ought not to be practised, according to Dr. Ruggi, except under well-determined circumstances. The following are these circumstances: 1st, when the hernia, of recent date, exists in a young subject, and includes both intestine and epiploon; 2d, when the strangulation of the viscera is caused by the external inguinal ring in such a manner that incision of the skin, of the cellular tissue, and of the superficial aponeuroses is sufficient to remove the obstacle; 3d, when the wound is regular; 4th, finally

[1] Abstract of a paper read at a meeting of the Glasgow Medical and Chirurgical Society.

when the hernia is simple, and when the condition of the incised or exposed parts is normal. In all other cases than these four, one ought to have recourse to union by second intention.

Dr. Ruggi then considers the mode of obliteration of the wound in union by second intention. In one case of hernia in which he operated on a young woman who died three days afterwards, he was enabled to study with care the relations between the plug of charpie introduced into the wound, and the portion of intestine previously protruded from the abdomen. Removing carefully the whole of the anterior wall of the abdomen, he recognized the position of the plug by a kind of rounded tumor, which corresponded to the internal orifice of the wound. A layer of fibrin, thick and tolerably resistant, surrounded like a capsule the extremity of the plug, and separated it from the viscera with which it had found itself in contact. The filaments of this plug adhered to the internal surface of this newly-formed capsule, so that in drawing upon the plug it was ruptured at several places. On removing the plug it was found that two loops of intestines, and also a small portion of the parietal peritoneum, contributed as well to the formation of the capsule.

With the aid of this anatomical fact, Dr. Ruggi states that he is able to explain the manner in which nature proceeds in the reparation of the wound in herina. The plug introduced into the incision, beyond preventing the return of the intestines, acts as an irritant body, which excites an inflammatory process indispensable for healing. This inflammatory process, in its turn, giving rise to fibrinous exudations, serves to retain the intestines within the abdominal cavity, and to prevent the plug of charpie from being moved.

Dr. Ruggi derives from this fact the practical deduction that it would be imprudent for the surgeon when he experiences some resistance in the movements of the plug of charpie to attempt to remove this. Rupture of the fibrinous adhesions which complete the capsule of the plug might open up a passage to pus, and thus give rise to extensive inflammatory action, and probably to fatal peritonitis. Moreover, laceration of the newly-formed adhesions might possibly cause a fresh communication between the external air and the abdominal cavity, and the communication then made for a second time, might be much more serious in consequence of the disposition to inflammation already established by the fact of the irritant action of the plug. It results then that the surgeon should use the greatest precautions in changing the plugs of charpie, and in practising the other manœuvres performed in the early dressings.

Dr, Ruggi, from want of experience, does not declare with certainty, concerning the ulterior transformation which the capsule may undergo. In the case in question the portions of intestine and of parietal peritoneum which adhered to the plug presented a deep red tint and a very rough surface; from which would probably arise the numerous granulations, which in a similar manner to those which spring from the walls of the wound, serve to bring about its complete obliteration. The fibrine which completes the capsule probably becomes organized, and Dr. Ruggi is inclined to believe that when the present enthusiasm for the cellular theory has once been cooled, an organizing force will be recognized in this product. Finally the portions of viscera which have taken part in this process of natural therapeutics, remain for a long time adherent to the corresponding point at the internal extremity of the wound, probably even up to the moment when scarcely a trace of cicatrix remains.

11. *The mode of re-establishment of osseous extremities after amputation.*

The following are the conclusions formulated by Dr. Ruggi:—

1. The vegetations which serve to cover over the ends of bones after amputations, when reunion takes place with the greatest regularity, take their rise in the soft parts, in the periosteum, in the cortical substance of the cone, and in the medulla.

2. The vegetations of the periosteum are developed through a change in the natural process which governs in the physiological condition, the cellular proliferation of the same tissue (ossification).

3. The vegetations which take their origin in the cortical substance arise from the connective tissue of the Haversian canals.

4. The granulations which spring from the medulla are developed after the cells of the medulla have undergone progressive transformation.

5. The most considerable granulations spring from the peripheral part of the bone.

6. Necroses of the extremities of bones which have undergone amputation and mortification of the soft parts are the processes which most generally retard the cicatrization of amputation wounds.

7. Sequestra retard the course of cicatrization either by preventing the development of the granulations of the cortical substance or by their exciting inflammatory processes and prolonged suppuration.

8. The necrosis of the bone may vary in degree from a simple death of some few elements, from the action of the saw, to the formation of considerable sequestra.

9. Sequestra may form both when the bones are superficial and project in the stump, and when they are found inclosed in the soft parts.

10. These sequestra may be developed in consequence of a faulty afflux of blood due to the resection and to the obliteration of a series of nutritive vessels.

11. Sometimes the sequestra are eliminated in consequence of the suppuration which is excited by that condition; sometimes they remain confined at the extremity of the bones within a capsule of connective tissue; occasionally they may become absorbed.

III. *On wounds of nerves; the re-establishment of centripetal and centrifugal currents in the lesions of nerves; the rules which the surgeon should obey in the resection of nerves.*

1. When the continuity of a nerve has been broken through a very extensive wound, the nerve is not re established either by its anatomical or its physiological continuity.

3. The coarser anatomical signs of the solution of continuity of the nerve are represented by the club-shaped termination of the superior end; by the persistence in this part of the nerve of all the physical characters of its normal condition, by atrophy of the inferior extremity, and by the absence of a swelling, or of tissue of any thickness, between the two extremities of the nerve.

3. The muscles to which the nerve is distributed become inactive, and then atrophy, without chance of a return to their normal condition, unless the function of the nerve be re-established in time, or by some other path.

4. Anastomoses between the large nerve trunks exist, but are very rare. They may restore to a part, but only partially, both sensation and movement.

5. Anastomoses between the sensory nerves of various regions are frequently met with, especially on the cutaneous surface, where this variety is by preference distributed. These anastomoses re-establish the functions of the nerve but in an imperfect manner.

6. The superior extremity of the nerve remains in a state of atrophy as far as the first collateral branch or the first anastomosis with some adjacent nerve. Beyond the anastomoses the nerve acquires all the character of the normal condition, and performs its functions in such a manner that the connection between the two nerves increases in dimensions.

7. The communications already existing between the nerves are those which are developed; fresh communications are not created.

8. The anastomotic connections existing between the sensory nerves of different regions of the body are demonstrated by anatomical facts, by chemical observations, and by facts of pathological anatomy.

9. The direct anastomoses of the median nerve, that is to say, the nerve branches which proceed from the superior to the inferior extremity, may re-establish the normal functions of the injured nerve.

10. The reproduction of nerve substance is the course which nature most constantly takes to re-establish the nervous connection between the periphery and the centre, and *vice versa*.

11. The superior extremity seems to be that at which there exists the greatest creative activity, since, when isolated it is capable of forming a ganglion, a process which is not observed in the lower stump.

12. The presence of the two ends of the nerve seems to be an indispensable condition for the formation of the nervous substance.

13. The reproduction of the nerve substance depends upon the distance at which the two ends are placed from each other, upon the size of these ends, upon their direction, and upon the anatomical condition of the surrounding parts.

ART. 137.—*Albumen in the Urine, sometimes in Conjunction with the Coloring Matter of the Blood, as a Consequence of Surgical Diseases and Operations.*

By HENRY LEE, F.R.C.S., Surgeon, St. George's Hospital.

(*Lancet*, August 21.)

The author states that, during the years 1837-8, he collected together "several cases which occurred in St. George's Hospital, in which the urine was albuminous, but in which there was reason to believe that there was no disease of the kidneys. In most of these cases the presence of albumen was accounted for by the ascertained disease of the bladder or of the prostate gland. This however, was not invariably the case. . . . .

"Quite recently two cases have come under my care which have appeared to me to demonstrate that, when the blood is contaminated in consequence of accident or disease, albuminous water may be the result, without any organic disease of the kidney. The albumen in such cases, together with the coloring matter of the blood, may escape in very considerable quantities. . . .

"Independently of the cases which have fallen under my own care, I have known of others in which, after a surgical operation or disease, the urine has become albuminous, and sometimes has remained so for a very considerable period. I have also been informed of two cases in which the urine at the same time became very dark-colored, and was supposed to contain blood. The cases which I have given, although few in number, are, I think, sufficient to show that albumen in large quantities may be present in the urine as a secondary affection dependent upon disease in some distant part. Such an affection must be carefully distinguished from any local disease capable of producing albumen in the ureters, bladder, or urethra. In both classes of cases the albumen may be produced independent of any organic disease of the kidneys, and in both it may be mixed with the coloring matter of the blood. From the cases which have come under my notice, I am inclined to believe that in the first class the coloring matter of the blood is found independent of any blood-corpuscles; and that in the second the color depends upon the blood-globules themselves. All the cases which I have known in which the peculiar color of the urine, to which I have drawn attention, has accompanied the secretion of albumen as a secondary affection (independent of any disease of the kidney, and independent of any affection in the urinary channels themselves), have been instances in which there was evidence, more or less distinct, of coagula having formed in some part of the vascular system. These coagula have been disintegrated and removed. The coloring matter of the blood has disappeared with the other portions of the coagula; and when we find this same coloring matter reappearing in a disintegrated form in the secretion of the kidneys, we are justified, I think, in concluding that the matter so eliminated formed part of the coagula which had been disintegrated and removed in the course of the circulation."

ART. 138.—*Three Cases of Cancer Treated by Gastric Juice.*

By Drs. TANSINI and PAGELLO.

(*Gazette Med., Lombard.; Gazette Hebdomadaire*, No. 40.)

CASE I.—*Tumor of the Temporal Region.—Cure.*—(Dr. Tansini.)—The patient was a woman, fifty-two years of age, of a cachectic aspect, who was admitted into the hospital of Lodi on January 13, 1869. A tumor had developed itself in the left

frontal region since 1864; at first hard and indolent, it became ulcerated, and bled at the least touch. It was very painful.

At the time of treatment the growth was of the size of a turkey's egg, and occupied the temporal region. It was ulcerated, and discharged a sanious fluid possessing a cancerous odor. It bled frequently. Below the ear were two degenerated glands, each hard and of the size of a bean. From the immobility of the tumor it was presumed that the bone was involved; an operation was renounced after consultation.

Professor Lussana suggested the employment of gastric juice from a dog as a means for destroying the tumor.

On February 12 the first application was made of gastric juice over the whole ulcerated surface by means of a brush. The patient complained of slight heat, and hemorrhage necessitated application of charpie.

On the following day, after removing the dressings, no change was observed, save a grayish tint—the surface at places was soft or dry.

On the 14th and 16th fresh applications of the gastric juice were made; the fluid flowed over the surrounding parts in spite of precautions taken to prevent this.

On the 17th there was fever, and erysipelas spread over the left side of the face.

On the 21st the tumor was found reduced by one half, the ganglion below the ear had disappeared, and that over the maxilla had suppurated.

On the 22d and 23d the erysipelas followed its course, accompanied by symptoms of gastricism.

The tumor diminished daily, and on March 1st was reduced to level wound, covered by rosy granulations, without any trace of the enlarged glands. Cicatrization was regulated by the application of nitrate of silver. On March 19th the patient left the hospital quite freed from the tumor, and improved in her general condition.

Case II.—*Tumor of the Temporal Region.—Cure.*—(Dr. Pagello.)—In the month of March, 1869, a young woman, nineteen years of age, was admitted into the hospital to be treated for a tumor of the size of a hen's egg, which occupied the whole of the right occipital region, and had slowly increased in size during the preceding seven or eight months. For a short time a seton had been applied across the tumor, which then became painful, and developed itself with greater rapidity. At the time of the patient's admission the wounds caused by the seton had healed, and on the surface of the tumor—in the very centre—was a brownish patch. The skin corresponding to this brown patch was adherent, but at other points was movable; the tumor *en masse* presented a mobility at the base, and also a feeble consistence. In the belief that the growth was a cyst, Dr. Pagello made over the tumor two incisions, which excluded the brown stain; but after the incisions had been made it was discovered that the tumor contained a central deposit of polypiform material, which formed a kind of fungous and irregular mass. As much as possible of this mass, which adhered to the pericranium, was removed. Two days later the fungosities had reformed in great numbers upon the exposed surface, and Dr. Pagello, and also his two colleagues, did not doubt the cancro-fungous and malign nature of the tumor.

Cauterizations were made with nitrate of silver, but the development of the fungosities continued with activity.

March 24th.—Dr. Lussana recommended the application of gastric juice to the wound. This was done, and in twenty-four hours the fungosities had been dissolved, and the inner part of the tumor had been converted into a viscous fluid, which was removed. The base was afterwards covered by granulations, and the irregularities of the edges had disappeared.

Dr. Pagello then conceived the idea of making a comparative experiment—that is to say, of treating one part of the wound by gastric juice, and the other by perchloride of iron; on removing the dressing it was found that the whole of that part of the wound which had been dressed with gastric juice was depressed, and that its fungosities were diminished in size; whilst in the part treated by perchloride of iron the fungosities were much elevated and sanguinolent. From that time the gastric juice was used exclusively, pressure being kept up, and the granulations occasionally touched with nitrate of silver—on April 4th—till the vegetations were destroyed, and the cavity was reduced to the size of a sparrow's egg. Adhesions and cicatrization were completed by April 3d, and the patient went out cured.

Case III.—*Cancer of the Parotid Gland.—Death.*—The patient was a young woman twenty years of age. She was suffering from an enormous cancer of the parotid, which extended from the temple, the pinna of the ear, and the mastoid apophysis, as far as the clavicle. There was ulceration and increasing marasmus. For five days—the 24th to the 28th of March—applications of gastric juice were made; in the centre,

of the tumor a large excavation was formed. From this was removed daily about an ounce of glutinous and filamentous material. About one-fourth of the tumor had been destroyed, but the cachectic condition became more pronounced every day, and the patient died on April 23d in a state of marasmus.

Art. 139.—*M. Ricord on Vaccinal Syphilis.*

The following is the substance of some remarks made by M. Ricord at the Academy of Medicine, during a discussion on vaccine virus:—

M. Ricord does not believe in the degeneration of vaccine; he thinks that the different results which have been obtained depend entirely on the conditions of the soil or organism, and on the quality of the seed or virus.

As to the charge made against vaccine of communicating syphilis, M. Ricord believes that there cannot be the slightest doubt raised as to the possibility of the fact, although the frequency has been singularly exaggerated. Vaccinal syphilis is excessively rare.

M. Ricord thinks, with M. Guerin, that a great number of cases of pretended vaccinal syphilis are very doubtful; these are particularly the benign cases, which would get well with little or no treatment. The benignity of syphilis inoculated by vaccine has been alleged; but this idea is essentially erroneous. M. Ricord differs, however, from M. Guerin, when the latter denies the fact of vaccinal syphilis, and declares the diagnosis of syphilis to be vague and uncertain. M. Ricord cannot but recognize as indubitable signs of indurated chancre, axillary adenopathy, and then the whole series of consecutive phenomena.

How is vaccinal syphilis produced? Is there a combination of the two viri—the vaccinal and the syphilitic? or, rather, are they developed simultaneously? With regard to this, observation is still deficient; but a very important point is the communication of syphilis by vaccine matter mixed with the blood of a syphilitic subject. Here, according to M. Ricord, is a serious question of responsibility for the vaccinator; for it is impossible to avoid a mixing of the vaccine with blood, since microscopical examination shows that the fluid effused into a vaccinal pustule always contains as much of blood-corpuscles as of vaccine.

To resume, it is true that human vaccine may transmit syphilis; but vaccinal syphilis is extremely rare; it is very difficult to produce, even when it is attempted purposely. On the other hand, has not the cowpox, like the human vaccine, also its blemish? Are there not contagious diseases which can be transmitted from animals to man by vaccination? This is what will be learnt from observation. "We possess," concludes M. Ricord, "two good sources of vaccine, which are equally powerful, equally efficacious; it is necessary to cultivate both with the same care and the same solicitude."

Art. 140.—*On the Treatment of Syphilis by the Subcutaneous Injection of Corrosive Sublimate.*

By Dr. A. Merscheim.

(*Inaug. Diss. Bonn*, 1868; *Schmidt's Jahrbücher*, No. 4, 1869.)

Dr. Merscheim, of Bonn, has had under his notice eighteen syphilitic patients, who were treated by subcutaneous injections of corrosive sublimate. The patients were injected twice daily. The syringe held a solution of two milligrammes of the mercurial salt; at first one-half, afterwards three-fourths, and eventually the whole of the contents of the syringe were injected. The largest dose of corrosive sublimate which was injected amounted to one centigramme.

Under this plan of treatment the syphilides and condylomata disappeared rapidly. The average duration of the treatment was thirty days. It is stated as an unfavorable point in the treatment, that it was often necessary to suspend the injections, in consequence of head symptoms, and other manifestations of mercurial action; by this the duration of the cure was prolonged. Pain, fre-

quently considerable, formation of abscesses, and increasing sensibility of the patient during the treatment, were also considered as especially unfavorable results of the process. Mercurial symptoms did not come on so soon as with other methods of treatment by this agent. Rapid cures were not attempted, for fear of too many points of phlegmonous inflammation. Dr. Merscheim bears witness to the security and precision of the method. He does not hold with Lewin that there is no necessity for the patient to keep his bed or his room. On account of the numerous abscesses and of the frequently severe pains, the patient is sometimes obliged to lie in bed, or at least keep himself in his chamber. Dr. Merscheim, although he acknowledges the advantages of the injection method with regard to the smallness of the dose and non-interference with the digestive organs, does not practise it on all patients. He believes that most persons would rather undergo a treatment which lasts for a somewhat longer time, but is painless, than one which, though shorter in duration, is necessarily attended with great pain.

ART. 141.—*On the Application of the Hypodermic Method to the Treatment of Syphilis by Mercurial Preparations.*

By Dr. F. BRICHETEAU.

(*Bulletin Général de Thérapeutique*, April 15.)

The first attempts made to treat syphilis by subcutaneous injections were made by Scarenzio, of Pavia, who employed calomel suspended in water, glycerine, or some solution of gum. The memoir published by Scarenzio on this subject describes eight cases of syphilis successfully treated, with one exception; but in all the cases the patients had abscesses in the spot where the injection was made. Dr. Ambrosoli, of Milan, following the treatment proposed by Scarenzio, obtained fourteen cures out of sixteen patients. Berkeley Hill, in England, employed injections of corrosive sublimate in twelve persons attacked with constitutional syphilis, and in four of them a very small amount of the drug produced mercurialism. The quantity of salt employed each time was about a milligramme (1 one-thousandth of a gramme, about fifteen grains), and where this quantity was exceeded the patients suffered from colic and diarrhœa, and the place of the injection remained painful for some time. Dr. Casati knew of a case where eight centigrammes of calomel injected under the skin of the arm produced a phlegmonous abscess, and a gangrenous stomatitis was superadded, which for some days put the patient in danger of his life. In Germany, George Lewin, of Berlin, made a number of experiments on this subject, and published a voluminous treatise founded on seven hundred observations. His solution consisted of corrosive sublimate in distilled water. Lewin's experience was strongly in favor of the hypodermic use of mercury in syphilis, and he considered the plan to be rapid in its results, as well as safe and effectual. In France this treatment has been but little employed, and the only physician who is known to have tried it is M. Aimé Martin, who published two cases, which, however, are very conclusive. He recommends a solution of four centigrammes of red iodide of mercury in a gramme (about fifteen grains) of distilled water. In order to render the red iodide soluble, it is mixed with iodide of potassium. This preparation is not irritating, and it presents besides the advantage of containing at once, in nearly equal proportions, the mercury and the iodide of potassium, the two great remedies for syphilis. The two cases recorded are very remarkable examples of the beneficial effects of the treatment. M. Aimé Martin, without abandoning the internal treatment of mercury or mercurial frictions, thinks that the hypodermic method is calculated to render some service in the treatment of a disease so obstinate as syphilis. M. Liégeois, surgeon of the Hôpital du Midi, is continuing some observations, which he has instituted during the last two years, on the hypodermic use of mercury in syphilis, and M. Bricheteau considers that his results are still more satisfactory than those of Lewin, and that his method is free from inconvenience. But M. Bricheteau considers that all the preparations of mercury hitherto recommended are objec-

tionable, owing to their irritating nature; and, after a consultation with a pharmaceutical chemist of experience, he has fixed upon the double iodide of mercury and sodium as the least injurious to the tissues. His formula consists of 1½ gramme of the double iodide dissolved in 100 grammes of distilled water. Each gramme of this solution, or 20 drops, contains 1 centigramme, or 10 milligrammes. It is recommended to begin with ten drops, or 5 milligrammes; then to increase the dose by 10 drops, and an injection to be made every second day.

ART. 142.—*On the Results obtained from the Subcutaneous Injection of Small Doses of Corrosive Sublimate in the Treatment of Syphilis.*

By M. LIÉGEOIS.

(*Gazette Hebdomadaire*, No. 28.)

The following paper was communicated to the "Société Impériale de Chirurgie."

"I propose to call the attention of the Society to the services that are to be hoped for from the employment of the hypodermic method applied to the study of syphilis. In the attempts hitherto made with this plan of treating syphilis, the mercurial salts only have been employed. In 1864, Scarenzio made use of calomel in the dose of 0.20 gramme to one gramme of distilled water. Three or four injections sufficed for the cure of the syphilis. Scarenzio's method was practised in Italy by Ambrosoli, Ricordi, and Monteforte; and in Belgium by Van Mons. In 1866, Berkeley Hill made use of corrosive sublimate for injection, in doses of one centigramme. About the same time, Lewin, of Berlin, employed injections of corrosive sublimate in doses of 0.006 gramme in females, and of .013 gramme in the male. Lewin's method was practically studied by Hebra, Viederhoffer, Boedse, Klemm, and others. In France it has been practised by M. Hardy, but without great success. In 1868, M. A. Martin proposed to inject the double iodide of mercury and potassium; finally, in 1869, M. Bricheteau directed attention to the iodide of mercury and sodium. My first attempts date from October, 1867, and were suggested to me by Lewin himself.

Eighteen female patients of the *Lourcine*, affected with severe secondary symptoms, were treated by injections of corrosive sublimate, equal in strength to those given by Lewin (.006 gramme to one gramme of water daily). No tonic regimen was prescribed, nor was any local application made; all my patients were cured of their symptoms in the space of from fifteen to twenty days. But the frequency of salivation, and the occurrence of abscesses and sloughs at the seat of puncture, led me to renounce Lewin's method.

On January, 15, 1868, I recommenced my researches at the *Hôpital du Midi*. After several trials, I made out that a solution of .004 gramme of corrosive sublimate in 2 grammes of water, when injected in two portions, is perfectly harmless. I employed this dose in my subsequent researches. From January 15 to December 10, I injected 196 subjects, taken from those most severely affected with syphilis. No local treatment was put in force. A few only of these patients were subjected at the same time to tonics. Patients affected with slight symptoms were treated by pills of the proto-iodide of mercury, by Von Swieten's liquid, or by tonics, and with these also no local treatment was practised. The following is the formula of my injection:—

Distilled water	90 grammes.
Corrosive sublimate	0.20 gramme.
Hydrochlorate of morphia	0.10 gramme.

Every morning two injections were made in succession into the cellular tissue of the back, one on the right side, the other on the left. The operation was generally accompanied by a slightly painful sensation; but no inflammatory reaction took place around the seat of puncture. In two instances only, where the injection had been forced into the skin tissue itself, did a slight slough form. Of the 196 patients, only 4 were slightly salivated. Five or six days

after the commencement of the treatment, the general condition of the patient began to improve, and the mucous patches became less distinct; the dry forms of the secondary manifestations improved less rapidly. At this period of the treatment the symptoms rarely increased in intensity, still more rarely did symptoms of a fresh form appear. The *embonpoint* of the patient in the majority of cases was considerably increased. Of the patients thus treated by injections of corrosive sublimate, 193 were affected with secondary, and 3 with tertiary symptoms. Of the 196 patients, 127 were discharged as 'cured,' and 69 as 'improved.' With those classed as cured, the mean number of injections was 68, with those who were improved the mean number was 50. The number of relapses among the cases of cure were 12—9.45 per cent.; among the cases of relief it was 14—20.30 per cent. Under the head of relieved I included every subject who presented no trace of the secondary symptoms presented at the commencement of treatment. The majority of these bordered on cure.

The hypodermic method enables one to know exactly the dose of the mercurial salt which penetrates into the system. From my statistics, it results that the patients who recovered the most rapidly under injections, were those who had undergone a mercurial treatment at a period more or less remote. These patients require, on an average, sixty injections; that is to say, a treatment of thirty days. Next come the patients who were put on iron on their entrance into the hospital; and then the patients treated simultaneously by tonics and injections; for the latter, about sixty injections on the average, were required. Finally, patients treated by injections of corrosive sublimate alone, require for their recovery about thirty-seven days of treatment. With regard to the duration of the treatment, the disadvantage is therefore with injections of corrosive sublimate when employed on individuals who have not been treated previously, and who have not undergone a tonic regimen.

Relapses, however, are the more likely to occur, as the treatment by injections has been the less prolonged. Among the patients who had already undergone a mercurial treatment, there were 6 per cent. of relapses. Among patients who had been subjected at first to a mercurial treatment, and a few days afterwards to injections, the relapses amounted to 37 per cent. Among those treated simultaneously by injections and tonics there were 12.50 per cent. Among the patients treated only by injections the proportion was 7.70 per cent. of relapses.

The various conditions which follow were studied in the patients subjected exclusively to injections. From fifteen to fourteen years, the younger the subject the greater the number of injections required, but the less the exposure to relapse. The symptom, which is most readily cured is roseola; next come mucous patches, and then the papular syphilides. The necessary number of injections is the more considerable as the commencement of the secondary symptoms is more remote. The relapses are always in inverse relation to the number of injections. The longer the incubation of the chancre the greater is the number of injections required. All these data derived from statistics show that syphilis is more resistant to treatment in proportion as the affection is of long duration. Preventive injections may postpone the appearance of secondary symptoms and diminish their intensity.

The advantages of the hypodermic method seem to me to be unquestionable: 1st, it can readily be applied; 2d, it guards against local affections; 3d, it enables one to avoid with much certainty salivation; 4th, its efficacy is very great against secondary manifestations; 5th, it does not disturb the important functions of the economy; 6th, it seems to expose the patient less to relapses than other methods of treatment; 7th, the relapses are generally very mild.

No treatment, whether tonic or mercurial, acts so efficaciously as the hypodermic injection of corrosive sublimate, in small doses, upon the nutritive condition of syphilitic subjects. The following are the average weights of sets of patients treated at the hospital:—

A non-syphilitic subject placed on the ordinary diet of the hospital gains 542 grammes. (Number of patients weighed, 16.)

A syphilitic subject placed on the ordinary diet of the hospital loses 1100 grammes. (Number of subjects weighed, 16.)

A syphilitic subject treated by tonics alone gains 689 grammes. (Number of subjects weighed, 9.)

A subject treated by injections of corrosive sublimate alone gains 1155 grammes. (Number of subjects weighed, 74.)

A subject treated by injections of corrosive sublimate and tonics gains 2037 grammes. (Number of subjects weighed, 13.)

A subject treated by Von Swieten's liquid gains 640 grammes. (Number of subjects weighed, 17.)

A subject treated by proto-iodide of mercury loses 362 grammes. (Number of subjects weighed, 9.)

Some authors have described the restorative influence of mercury on syphilitic subjects; but these suppose that the mercury strengthens the forces of the organism only by destroying the syphilitic virus which is the cause of the nutritive and functional disorders. For the purpose of deciding this question I have made injections of corrosive sublimate on man and on healthy animals. Five subjects affected with soft chancres gained in weight, on an average, 3662 grammes. Two fully-developed rabbits gained, the one 650 grammes, and the other 1000 grammes, from February 17th to the 9th of April. My experiments have proved that mercury, in small doses, is a reconstituent remedy; in stronger doses it is an alterative, and, in still greater quantity, a poisonous agent. If mercury, in small doses, acts as a reconstituent on healthy subjects, it is certain that among syphilitic individuals the activity of the nutritive processes is not a consequence of the cure of syphilis, but rather the result of a special action of the mercurial salt upon nutrition."

ART. 143.—*On the Nature of Syphilitic Infection and the Inoculability of the Syphilitic Virus.*

By Prof. W. BOECK.

(*Archiv für Dermatologie und Syphilis*, 1, 2; *Schmidt's Jahrbücher*, No. 7.)

The syphilitic matter, when kept in the fluid state for six or eight days, is generally no longer inoculable, and when kept dry, loses its infecting properties still earlier. Prof. Boeck holds the opinion that it is no longer inoculable after it has been kept for a few hours. Hence we must question the accuracy of reports concerning the transmission of the disease by the instruments used in catheterization of the Eustachian tube. Boeck doubts also many of the reports of the transmission of syphilis by means of lancets, although he holds that under certain conditions this is possible. A very close examination of certain cases of syphilis will often enable the surgeon to explain, in a simple manner, what are supposed to be obscure modes of transmission.

The two following cases afford a proof how difficult it is at times to make out the manner of transmission of the syphilitic disease:—

M. Ol., twenty-five years of age, unmarried, was, with her child, which was born on November 16, 1859, admitted into the hospital in January, 1866. Both were affected with constitutional syphilis. The mother had discovered her own affection since the middle of December. On January 16, 1860, Professor Boeck was consulted by the wife of a ship captain on account of her child, aged three months. This woman, as she had not sufficient milk, had put out her child to nurse for about six weeks to M. Ol. During the last three weeks this girl had complained of an ulcer on the right nipple; and as the mother had learned that the nurse was syphilitic, she, on the advice of her medical attendant, examined daily with great care the mouth of her infant. On the day she consulted Professor Boeck a few spots were observed on the infant's tongue. Boeck found on the left side of the apex of the tongue two round superficial ulcers, or rather denudations of epithelium, consequent on the rupture of vesicles. There was no exudation, no swelling, no redness of the surrounding parts. The mother was at once forbidden to suckle her infant, and was told to present it again as soon as the ulcers had undergone change.

On February 5 the infant was again brought to Professor Boeck. At the spot where the ulcers had presented themselves was now an elevation about five millimetres in length and three millimetres in breadth, of an irregular form, and with a yellowish surface. The child in all other respects was healthy, and presented no other syphilitic symptoms. The nipples of the mother were in a normal condition. On February 19 the lingual ulcer had increased in size, but was more shallow, and no longer covered by yellow exudation; the base was red, and the adjacent parts slightly inflamed. Over the thorax and abdomen was a roseolous eruption of one day's duration. On February 26 the ulcer commenced to cicatrize; the roseola on the trunk was more developed, and in the neighborhood of the anus was found a small mucous tubercle. On March 4 the lingual ulcer was almost healed, the small mucous tubercle near the anus was somewhat larger, and on the extremities existed a scanty papular exanthem. Some weeks' constitutional sickness appeared in the mother. Both mother and child were cured by syphilization, and remained well.

Prof. Boeck attaches importance to the fact that in this case, at the time when the constitutional symptoms were so far advanced that the mother, who at an earlier stage had recognized nothing abnormal, had her attention now directed to the symptoms, the primary lesion was obscured to such a degree that it could no longer be discovered. From the day on which the child was suckled for the last time by the nurse to the day of the development of the vesicles, there was an interval of fourteen days, and the roseola made its appearance thirty-two days later. It is not known, indeed, at what time the ulcer appeared on the nipple of M. Ol.

A. E., aged twenty-two years, a married woman, was admitted with her son on September 12, 1866. The mother was affected with constitutional syphilis, and presented an exanthem, an affection of the aural glands, &c., and likewise an excoriation on the left nipple. Her child, then in a healthy state, was taken from the breast and closely examined every day. On Feb. 28 a very small ulcer presented itself on the tongue near the frænum. This ulcer varied in size from time to time. On October 6 it was covered by a yellow deposit, and two days later was healed. On October 3 there was a slight epithelial abrasion on the upper surface of the tongue near its apex; this, however, rapidly healed. The submaxillary glands were but slightly swollen. On October 23 some roseolous spots were observed on the thorax; on November 2 these had developed themselves to such an extent that the diagnosis was certain. Syphilization was now commenced, through which treatment both mother and child recovered.

In this case the ulcer showed itself sixteen days after the child had been last suckled by the mother; twenty-five days later the roseola first made its appearance. At this latter date no trace of the primary ulcer could any longer be discovered. Boeck states that he has frequently had under notice young children affected with constitutional syphilis, in whom he was unable to discover any primary affection because he had not previously had any opportunity of recognizing the rapidly disappearing local lesion.

In the second part of his contribution, Professor Boeck produces some interesting cases to support the theory of unity. He asks why it is that dualists in their inoculations on syphilitic subjects produce negative results, whilst the results of unicists, on the other hand, are positive. The answer to this question he finds in the difference of the mode in which the inoculations are made. The dualists generally make but one inoculation, this failing, they conclude syphilis to be non-inoculable. In some circumstances, however, do repeated inoculations indicate an auto-inoculability of the syphilitic virus. The following case is adduced:—

D. C. G. was on March 18th received into the hospital. Through a phymotic prepuce could be felt close to the corona glandis a marked induration; from the preputial orifice there was a thin watery discharge, the inguinal glands were swollen, and here and there upon the trunk was scattered a papular exanthem. The patient was daily inoculated on the right side with the discharge from under the prepuce, and on the left side with pus from a foreign source. On June 8th a pustule was observed for the first time on the right side; from this inoculations were made with positive re-

sults on June 12th and 14th. As it was possible that the foreign material inoculated on the left side, which had produced several pustules, might also have produced the same results on the right side, matter from the preputial orifice was on June 14th inoculated on the right arm, and produced at this spot a positive result.

According to Bidenkap, the inoculated material often takes on the same subject, after it has been frequently inoculated, or when the indurated skin has been irritated. In M. Boeck's case, after inoculations had been made for twenty days without any result, a spontaneous irritation, namely, an inflammation, which was probably set up by the accumulation of pus under the prepuce, came on; this was attended with urinary disturbance, and then the pus could be inoculated upon the affected subject. That the patient had willingly transferred pus from another patient to his own ulcer (as is occasionally done in hospitals) is not at all probable, because the ulcer was closely confined by the phymotic foreskin.

G. H——, aged thirty-six, was treated at the hospital on March 2d, 1868, for a chancre on the lower lip. The ulcer was at least one inch in diameter, the lip was very much swollen and protruded. There was marked swelling of the submaxillary and cervical glands. A roseolous eruption was scattered over the body.

An auto-inoculation from the lip gave a negative result. Treatment by syphilization was then commenced. The ulcer on the lip continued to suppurate. An inoculation on April 1st on the right arm gave for the first time a positive result. On April 6th, Boeck inoculated the left arm from a papule situated upon the right arm. And this was at once followed by a pustular formation, which on the following day dried up. Another inoculation was then made on the left arm from the same source on the opposite limb. This inoculation had results, and at the same time pustules were developed from the first inoculations upon the same arm. From this time the man was inoculated every third day from the well-developed pustules. On June 14th he was discharged as cured.

In explaining the circumstance that the secretion of the indurated chancre did not take on the first inoculation at the time of the man's admission into the hospital; whilst, on the other hand, two inoculations made two months later, were followed by positive results, Professor Boeck assumes that although the *materies morbi* was less powerful, the ordinary condition of body in consequence of the syphilis has been changed. The longer the body has been subjected to the syphilitic dyscrasia, the more quickly does the *materies morbi* act. The possible answer from the dualistic stand point that the matter in the pustules was nothing more than that of a soft chancre, and that the patient had carried matter from these pustules to the later and non-inoculable labial ulcers, cannot, Boeck holds, be accepted.

With this patient there occurred on March 30th, during the treatment by syphilization, an erythematous rash on the forehead, back of the neck, arms, and calves of the legs. This, Boeck states, is often observed during syphilization; it is generally seated at a distance from the inoculation point, and has no local dependence on the treatment.

P. A. T., twenty-two years of age, was admitted into the hospital on Feb. 23, 1867, with an indurated chancre on the corona glandis, and swelling of the inguinal and cervical glands. As there was but little secretion from the ulcer, its surface was dressed with pulvis sabinæ, after which inoculations of the matter of the ulcer were made daily upon the left side of the patient. On March 23 no action could be observed at any of the inoculation spots. Two days later there was roseola. The patient was now treated by syphilization. On May 23 there was found on the left side, where the experimental inoculations had been made with matter from the primary ulcer, eight papular elevations of a brownish color, and at one of these spots a formation of scales. It could not be determined how long these papulæ had existed. On June 17 they had quite disappeared, and on July 11 the patient was discharged as cured.

In December, 1868, Dr Bidenkap brought under the notice of the Medical Society a man aged forty-four years, who had last had connection six weeks before his admission into the hospital. On the day before his admission the patient had noticed for the first time small excoriations upon the glans and the inner surface of the fore-

skin. On admission there were found two small red spots stuffed with epithelium, which had extended from the corona glandis to the foreskin. There was no appreciable induction. There was an accumulation of yellowish pus between the glans and the foreskin. The inguinal glands on the left side were slightly swollen. The diagnosis wavered between balanitis and primary syphilitic symptoms. Inoculations were now made on both sides of the patient's chest, and the scanty secretion taken by the lancet from the excoriations, but these were apparently without result. The crusts at the spots of inoculation fell off and exposed but a small reddened patch. During this time the excoriations enlarged and contracted. On October 27th, twenty-four days after admission, the sore had become very large, and there was distinct induration; there was also a tendency to phagedena, the pus being thin and of a yellowish-gray color, and the ulcer itself very painful. Inoculations at this time failed in every instance. On Nov. 2d the ulcer ceased to spread, and presented fresh granulations, the pus was thick and yellow, and the induration considerable. As yet the experimental investigations had given but negative results; the small red patches, however, at this time, particularly those made at an early period, became more prominent. Inoculations were now made upon the arm of the patient with the thick yellow pus from the primary sore, and thereupon were developed by Nov. 4th tolerably large pustules, matter from which could be again inoculated with results both upon the patient himself and on another syphilitic individual. The inoculations resulted in well formed, characteristic deep chancrous ulcers, quite similar in appearance to those which came on after the inoculation of soft chancres. In the meanwhile, a characteristic roseola had developed itself upon the back and abdomen, the inguinal glands had become much swollen, but the primary sore, in consequence of phymosis, could not be observed. Induration could be felt. At the same time the red spots resulting from the unsuccessful inoculations of the first three weeks were converted into prominent papular or tuberculous products of a bright red color, each about the size of a small pea. The largest tubercle was found at the spot where the first inoculation had been attempted.

Professor Boeck lays stress upon the fact that in this patient the various sound results of the inoculation, the pustules and the tubercles, were developed at the same time. To the possible objection that the patient might have transmitted the secretion of a soft chancre to the primary sore, and that the artificial pustules might have been produced in this way, Professor Boeck would reply that the tubercular formations afforded a clear proof that the matter from the inoculated ulcer was auto-inoculable.

Art. 144.—*Clinical Notes on the Treatment of Syphilis.*

By John Kent Spender, M.D. Lond., Surgeon to the Mineral Water Hospital, and to the Easton Dispensary, Bath.

(*The Lancet*, June 19 and 26.)

The following are the therapeutic propositions which Dr. Spender has advanced:—

1st. For the secondary forms of syphilis give, in the most eligible form, iodide of potassium in moderate doses, with blue pill or some analogous preparation.

2d. The double compound of iodide of potassium and bichloride of mercury may be necessary for treating syphilitic inflammation of deeper tissues.

3d. The bichloride of mercury is valuable for removing the intermediary squamous syphilides. The green iodide of mercury is recommended by Mr. Squire. In doubtful cases, bichloride of mercury may be added to arsenic.

4th. The earlier tertiary phenomena of syphilis are relieved by the double compound of iodine and mercury just named; the later ones by large doses of iodide of potassium. Sometimes even cures may be effected. Tonics are generally useful subordinate agents.

5th. Infantile syphilis always requires mercury.

The author adds that in otherwise intractable cases the mercurial bath and the hypodermic method of introducing mercury into the system should be rendered available.

ART. 145.—*Cases Illustrating the Diagnosis of Syphilis.*

Under the care of Mr. MAUNDER.

(*The Lancet*, November 20.)

We note the following as useful illustrations of the caution necessary in dealing with suspicious sores and eruptions:—

E. P——, aged seventeen, had been admitted into the London Hospital on the 3d of September, 1869, with suspected syphilitic sorethroat. On examination on October 5th, she was found to have a pustular eruption sparingly scattered over the face, trunk, and extremities, associated with a chronic enlargement of the tonsils. Mr. Maunder suggested to the class that the eruption was not such as is usually met with as a sequela of syphilis, but he had seen one similar, produced apparently by iodine. On inquiry, it was ascertained that the patient was taking the syrup of the iodide of iron. This medicine was omitted, and the tincture of steel substituted. By the 8th of October the pustules had dried up.

A. B——, aged twenty-five, was said to be the subject of an indurated chancre on the vulva. On examination by Mr. Maunder on October 5th, a large ulcer was found occupying the cleft between the nymphæ and their opposed surfaces, having somewhat thickened and undermined edges, and discharging freely. There was no glandular complication. The patient's voice was husky, and her throat scarred.

Mr. Maunder said that the evidence was in favor of the existing sore being of the tertiary rather than of either primary variety—hoarse voice and cicatrices on palate; large size of the sore; free discharge without inoculation of adjacent parts. Were it *indurated*, it would be associated with an adenopathy in one or both groins; were it a *soft* chancre, the discharge was so free that the adjacent parts could not have escaped inoculation. Iodide of potassium will quickly influence the character of the sore if it be tertiary.

On October 8th, the patient had taken five grains of iodide of potassium thrice daily, and the sore was healing rapidly.

These cases teach caution in making diagnosis even in patients leading an irregular life. In the first case, neither the sorethroat nor the rash was due to syphilis. In the second instance, although the sore was situated on the genitals, it was not of either primary variety.

SECT. II.—SPECIAL QUESTIONS IN SURGERY.

(A) CONCERNING THE HEAD AND NECK.

ART. 146.—*On a Simple Method for the Radical Cure of Encysted Tumors of the Scalp.*

By Dr. VON KRAFFT-EBING.

(*Berliner klinische Wochenschrift*, vi. 2; *Schmidt's Jahrücher*, No. 9.)

Even if it be allowed that extirpation by means of the knife is the only sure and rational method for the removal of sebaceous tumors, still there are some cases where the patients dread a cutting operation, and the tumors are small and cannot be shelled out without difficulty, and for the treatment of these some other method is desirable.

Dr. Von Krafft Ebing recommends for this purpose the subcutaneous injection of tartar emetic.

Into a sebaceous tumor of the size of a bean, and situated over the right side of the frontal brow of a young girl, a few drops were injected of a solution containing 0.65 gramme of tartar emetic to 15 grammes of distilled water. The

burning pain which immediately followed this operation disappeared in the course of half an hour. No nauseating action resulted. On the following day there was tenderness of the tumor on handling, and in about forty-four hours after the operation, the cyst with the whole of its contents was forced out by moderate pressure, whilst a few drop of pus exuded from the puncture. The wound healed rapidly.

The injected solution acted in a similar manner in several encysted tumors, varying from the size of a bean to that of a pigeon's egg. Expulsion of the growth constantly followed between the second and third day. The treatment had caused nausea or erysipelas. With large cysts Dr. Krafft-Ebing thinks it necessary to leave some of the solution in the wound formed by puncture, in order to set up more extended mortification of the skin, and thereby to facilitate the elimination of the cyst.

ART. 147.—*On Trephining of the Cranium for Traumatic Lesions of the Head.*

By Baron H. LARREY.

(*Mémoires de la Société de Chirurgie*, tom. vii.; *Gazette Hebdomadaire*, No. 29.)

The following conclusions are given in M. Larrey's contribution :—

Trephining is indicated for traumatic lesions of the head under two fundamental conditions; when, in the following cases, closely localized or circumscribed symptoms persist, and when other resources are powerless for remedying them.

1. In fractures of the vault of the cranium, either with perforation more or less deep, or with depression of the fragments, when the laceration of the dura mater or the lesion of the brain excites grave and continuous symptoms, unless attempts at reduction with other appropriate means than trephining be possible or efficacious.

2. In fractures complicated with the retention of foreign bodies or projectiles in the thickness of the cranium, or their penetration into the superficial layers of the brain; when bad symptoms persist, and the retraction of the foreign body cannot be performed in any other way.

3. In various mechanical lesions of the head, complicated with persistent severe cerebral symptoms, such as contusion and compression of the brain, or again prolonged hemiplegia with effusion of blood or pus, presumably circumscribed; provided that the local lesion be precise, and provided, above all, that the previous trial of active treatment has proved insufficient. M. Larrey insists very much upon this last consideration.

Trephining is contra-indicated, on the one hand, in lesions which are rapidly or certainly fatal, and, on the other, in all lesions which are presumably curable by other means.

1. When a foreign body after penetration into the cranium is lost in the deep seated parts of the brain, or has become inaccessible to instruments.

2. If blood or pus effused within the cranium, does not appear to form a distinct deposit in connection with the aperture in the bone.

3. In every fracture, whatever its extent may be, which is complicated neither with fixed depression of the fragments, nor with prolonged phenomena of compression or paralysis.

4. In a condition of cerebral commotion or of coma more or less profound, with or without a localized lesion.

5. In non-persistent, undetermined, or epileptiform convulsions susceptible of cure.

6. In well-marked diffuse inflammation of the brain or meninges.

Art. 148.—*On Extirpation of the Calcaneum.*

By Prof. Polaillon.

(*Archives Générales de Médecine*, October.)

The following conclusions are given at the end of Professor Polaillon's memoir:—

"Extirpation of the calcaneum ought to be accepted in practice, for it permits of the preservation of a very useful foot for standing and walking.

"The number and value of its success vary, above all, with the age of the patients operated upon.

"With infants and subjects at the age of puberty it succeeds in more than eight out of nine cases, and gives excellent results as to the ulterior utility of the limb.

"With adults it fails in one-half the cases, and, when it succeeds, gives generally less satisfactory results. The foot, in fact, accommodates itself badly to the loss of the calcaneum at the age when the growth of the skeleton has been perfected.

"In cases of disease of the calcaneum, the extirpation of this bone ought then to be always preferred to amputation with infants and patients at the age of puberty.

"But amputation succeeds better than extirpation with adults. With the latter a stump will generally form for the functions of the lower limb—a more solid and less tender point of support than a foot deprived of its calcaneum.

"It should be known, however, that amputation exposes the patient to a fatal risk in a much greater proportion than extirpation, and that in certain conditions the latter operation may procure a cure with much less peril to life.

"When an affection of the posterior part of the foot exists for a long time, notwithstanding the employment of repose and all the appropriate local applications; and when the question of an operation is put, the surgeon ought to direct the whole of his attention to finding out whether the calcaneum *alone is diseased*, or whether the disease has also attacked the neighboring parts at the tibio-tarsal articulation.

"If the localization of the disease is recognized with certainty, extirpation of the diseased bone ought to be performed.

"But if the diagnosis of the limits of the disease cannot be determined either by methodical exploration or by functional disturbances—by the locomotion of the patient or by the history of the case, the idea of extirpation ought not yet to be abandoned. Everything should be arranged for the performance of the operation, and an *exploratory excision* made down to the bone in such a manner that the wound thus formed may serve, according to the extent of the disease, either for ablation of the calcaneum, for a tibio-tarsal disarticulation, or for amputation of the leg.

"In a case of comminuted fracture of the calcaneum by a gunshot wound or any other cause, with a penetrating wound through the integument, extirpation will probably become necessary, because the ostitis generally results in caries. The surgeon before acting usually waits until it has been demonstrated that the osseous wound can heal by granulation.

"Central caries which has not yet attacked the articular surface of the calcaneum, indicates an operation for total removal of the bone.

"Peripheral caries, with suppuration of the calcaneal articulations, indicates an operation for disarticulation of the bone, and scraping and cauterizing the corresponding articular surfaces. But if the caries has deeply involved the astragalus, and the cuboid and scaphoid bones, it is prudent to perform immediate amputation at the tibio-tarsal articulation, in order not to be obliged to arrive at this necessity after a brief delay.

"Total necrosis and diffuse phlegmonous periostitis are the affections in which extirpation of the calcaneum is most successful, because the periosteum has been stripped off through suppuration, and the operation is thus reduced to a

simple extraction of a sequestrum. It is in these cases, also, that the best osseous reproductions have been obtained.

"The neoplasms which may indicate extirpation of the calcaneum, are principally enchondromate or fibrous tumors, scarcely ever the cancers. At its commencement cancer does not form a sufficiently appropriate tumor for diagnosis. At a later period, when it has become larger, it involves the neighboring tissues, so that it will not be prudent then to attempt any other operation than amputation of the whole foot.

"The presence of fistulæ, small ulcers, or an inflammatory condition of the skin of the heel, are not contra-indications to extirpation.

"But ulceration of the skin over a great extent, and its alteration by the spreading of a cancerous tumor, or even considerable thinning in consequence of the development of a benign tumor, are express contra-indications to extirpation. Even supposing that a cure could be made, the patient would be obliged to walk upon a weakened surface, and would be exposed to all the troublesome results of this condition.

"In all cases it is an advantage not to wait too long before operating.

"The traumatism of extirpation of the calcaneum is inconsiderable, and permits one to perform this operation even when patients are debilitated by long-continued disease."

ART. 149.—*Tumor of the Submaxillary Gland.*

By Dr. TALAZAC.

(*Thèse de Paris.*)

Dr. Talazac gives full reports of four cases of these extremely rare and interesting affections. The first case, from the practice of M. Verneuil at the Lariboisière, was one of simple adenoma of the gland. The diseased mass was removed partly by the knife and partly by ligature, and the patient, a woman aged fifty-eight years, made a good recovery. The second case, also from the practice of M. Verneuil, was one of scirrhus of the gland. The tumor was removed by the knife and ligature, but the patient died on the third day in consequence of hemorrhage and subsequent pyæmia. Another case was one of enchondroma in the gland, a description of which was given by Virchow. The last case, which was described by Schols, was also one of enchondroma. The growth was of firm consistence, surrounded by a layer of connective tissue, and weighed thirty-five grammes.

ART. 150.—*On the Contagious Origin of Catarrhal Conjunctivitis.*

By M. GOSSELIN.

(*Archives Générales*, April.)

M. Gosselin observes that besides purulent ophthalmia, which is admitted by all to be contagious, there are forms of conjunctivitis in which only a small quantity of pus is secreted, which becomes mixed with a notable amount of mucus and tears. This, which he terms semi-purulent conjunctivitis, in which the pus is only recognized by the microscope, is, however, also transmissible by contagion; and the same may be stated of conjunctivitis, which at an earlier stage has been purulent, and at a later one only furnishes a minute portion of pus mingled with mucus. Many writers admit that granular conjunctivitis is contagious, but it is not clearly stated whether this admission is confined to what are called true or neoplastic granulations, which are very rare, or to the false or papillary granulations resulting from hypertrophy of the conjunctival papillæ, which are usually met with.

Having paid much attention to this subject, M. Gosselin lays down the following positions, illustrating them by some cases: 1. *Non-purulent conjunctivitis is sometimes acquired by contagion from a similar form of conjunctivitis.* This is not unfrequently met with in parents who have acquired it from

their children, who themselves may have acquired it in schools, &c. Catarrhal ophthalmia so contracted is usually of little importance, but the possibility of its being so produced enables us to guard against it by insisting on the separation of the patient from the contact or vicinity of those we wish to preserve from it. In some cases where this precaution has been neglected, the acquired disease may not be so simple in its course, but may become chronic, or involve the cornea. 2. *A simple catarrhal conjunctivitis may originate from a purulent conjunctivitis.* M. Gosselin has never witnessed this as yet in the case of adults, although he believes it possible; but he has often seen nurses and others attending on infants suffering from purulent ophthalmia, become themselves the subjects of simple catarrhal ophthalmia which has promptly disappeared under prophylactics. He also gives a case at length, in which an adult acquired catarrhal ophthalmia from a child four years and a half old, having purulent ophthalmia, and which also exhibits the liability to relapse while exposed to the same influence. 3. *Catarrhal ophthalmia may be due to more or less chronic granular conjunctivitis.* Papillary granulations may result from catarrhal and semi-purulent conjunctivitis, and these, even when only in the form of blepharitis, may induce a catarrhal conjunctivitis, which itself is susceptible of becoming, but does not necessarily become granular. At the Hôpital des Enfants Assistés, where are temporarily placed the children of patients who are obliged for various complaints themselves to enter hospitals, catarrhal conjunctivitis is often acquired, and usually from subjects having granular conjunctivitis; and the children, when restored to their parents, frequently convey to them either simple or granular conjunctivitis.

As a general conclusion, M. Gosselin says that he feels quite authorized to state that simple catarrhal conjunctivitis, muco-purulent, or semi-purulent conjunctivitis, and granular conjunctivitis, are, as well as the purulent form, susceptible of being communicated by contagion, both by contact and miasmata; and that in consequence in such cases we should employ the following precautions: 1. Separate, wherever possible, the subjects of this affection. 2. When isolation is not possible, recommend the greatest care in the exclusive use of handkerchiefs, napkins, objects of dress, &c. 3. Avoid all contact with the faces of the patients. 4. Examine carefully the eyes of persons obliged to remain near those cases, so that any conjunctivitis that may arise may be summarily arrested. 5. Insist on these recommendations being especially observed in small rooms, schools, asylums, and children's hospitals, as accumulation of many subjects in the same atmosphere strongly predisposes to contagion.

ART. 151.—*On Adenoid Vegetations in the Naso-Pharyngeal Cavity, their Pathology, Diagnosis, and Treatment.*[1]

By Dr. WILHELM MEYER, Copenhagen.

(*The Lancet*, December 4.)

There exists a peculiar form of defective speech, often accompanied with imperfect hearing, which is found to be dependent on the presence of exuberant growths or vegetations in certain parts of the naso-pharyngeal cavity. These vegetations, when examined microscopically, are found to be composed of the so-called "adenoid" tissue, and are accordingly to be regarded as overgrowths or morbid growths of the closed glandular structures allied to the lymphatic glands found naturally in or beneath the mucous membranes of the pharynx, the fauces, and the base of the tongue. Hence the term "adenoid vegetations" suggested for them. The presence of these vegetations in sufficient quantity impairs the power of pronouncing the nasal consonants, and gives a "dead" character to the speech. They also impede respiration through the nose, and compel the patient to keep open the mouth, thus giving a vacant aspect to the face. If accompanied by deafness, the vacant look is still more remarkable.

---

[1] Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, November 23. Communicated by Mr. Marshall.

The nostrils are usually compressed. Other signs and symptoms are present, and the affection is sufficiently serious to merit attention. The author has briefly described the naso-pharyngeal cavity, in order to define with accuracy the usual seats of these overgrowths. The character of the vegetations themselves is next described. These vary in form and consistence in different situations, being sometimes cristate, and at others cylindrical or flat; sometimes they are solid and firm, and at others soft and highly vascular. The latter easily bleed when examined with the finger. Their microscopical structure also varies slightly, the firmer kinds containing the most characteristic adenoid tissue. Their relation to the normal structures in the naso-pharyngeal mucous membrane is very apparent.

Certain accompanying changes in the surrounding mucous membrane, in the tonsils, in the soft palate, and in the nasal fossæ, have been noticed, and must be taken into account.

The *symptoms* depend on the seat and size of the vegetations. Besides the peculiar effect on the speech, and the open state of the mouth, the nostrils are flattened, so that the nose appears compressed. Moreover, the patient often has a deficient secretion from the nostrils, and sometimes blood accumulates in the mouth. Deafness is occasionally combined with these symptoms. In using an ear-catheter in such a case, the stream of air entering the tympanum is arrested temporarily, without any apparent reason; and sometimes a bubbling sound is heard during insufflation.

The *diagnosis* of such cases, is, of course, partly dependent on the presence of the above-mentioned signs and symptoms in a persistent or chronic form. These, however, may also indicate other affections of the nasal organs, such as chronic inflammation of the mucous membrane, and polypi, or chronic inflammation of the soft palate, or enlargement of the tonsils. Hence the physical examination of the parts concerned is indispensable as a means of diagnosis; and of these, touch is more easy and more sure than sight as a method of research. Digital examination of the cavity may always precede, and nearly always supersede, the use of the rhinoscope. Very full and practical instructions are offered for conducting this examination.

The *frequency* of the occurrence of these adenoid vegetations of the naso-pharyngeal cavity has been tested, in Denmark at least, by careful inquiries prolonged over about eighteen months. The statistics of this affection are shown in a tabular form, and are otherwise explained. It occurs especially in youth.

The *causes* of these vegetations are then briefly discussed, and especially their relation to deafness.

As to *prognosis*, it seems possible that they may diminish or become of less moment as age advances; but this is uncertain.

Their *treatment* is, in the last place, fully discussed. They may be most easily and rapidly removed by a ring-shaped knife, mounted on a long, slender handle, which is passed through one or other nostril, and manœuvred so as to sweep over the mucous surface affected with these vegetations. This proceeding is aided by the forefinger of the left hand passed over the tongue. Two or more operations are sometimes necessary. The bleeding is free, but not excessive. Sickness sometimes supervenes. A complete cure is usually accomplished—the voice becoming improved, the speech perfect, the nostrils expanded, the mouth closed, the aspect of the face is changed, and any accompanying deafness is relieved.

As an auxiliary means, the use of the nasal douche is of great importance. Nitrate of silver, or the galvanic cautery, may also be employed, with or without the previous application of the knife, according to special circumstances which are fully indicated. Many little practical details require to be attended to in order to insure success.

To illustrate the remarks and conclusions above detailed, two typical cases are described, together with the treatment employed and the results obtained.

In conclusion, the real importance of this local disease is enforced, as a reason for bringing it under the notice of the profession in England.

Illustrated photographs of patients, taken before and after the operation,

with drawings of the vegetations, of their microscopic structure, and of the instruments used in removing them, are added to the paper.

Art. 152.—*Ophthalmia Neonatorum.*

By J. Soelberg Wells, Professor of Ophthalmology in King's College, Ophthalmic Surgeon to King's College Hospital, and Assistant-Surgeon to the Royal London Ophthalmic Hospital.

(*The Lancet*, August 21.)

The following is a brief sketch of the leading features of the symptoms of this disease, its complications, and the treatment which is to be adopted. Its intensity, Mr. Wells writes, varies much. In the milder cases, the inflammation only assumes the character of slight catarrhal ophthalmia. The lids are somewhat swollen, red, and œdematous; the palpebral and ocular conjunctivæ injected; and there is a slight muco-purulent discharge. But in the severer forms the symptoms are very different. The lids are very red and swollen, the upper eyelid hanging down in a heavy fold. When the lids are everted, and the discharge is wiped away, the conjunctiva is found to be very vascular, swollen, and succulent, and its papillæ very prominent. There is often great chemosis round the cornea. The edges of the lids become sore and excoriated, and the lashes glued and matted together by the discharge. The latter is thick, yellow, creamy, and perhaps so copious that it oozes out between the lids, and flows over the cheek; it is sometimes tinged with blood. On account of the laxity of the tissues, the swelling of the lids and conjunctiva is often very great, even in the milder cases, and perhaps quite disproportionate to the severity of the disease. Instead of being soft and doughy, the lids are sometimes hard and stiff, the conjunctiva pale and yellowish-gray, and the discharge scanty, thin, flaky, and somewhat membranous. This condition, to which Wecker gives the name of cyanosis conjunctiva, is due to a great retardation in the circulation of the lids.

As the principal danger of the disease is the implication of the cornea, the condition of the latter should be frequently and carefully ascertained. At first there may only be a slight haze or steaminess of the cornea, or a more dense infiltration, which may pass over into an ulcer. The infiltration may gradually diminish in thickness, and be absorbed, leaving finally no trace behind it; but if it be dense and extensive, it may give rise to a permanent thick opacity. The ulcers may appear near the periphery or the centre of the cornea, and remain superficial, or may increase in depth and circumference, and lead to perforation of the cornea, thus giving rise to certain complications which vary in gravity and danger according to the extent of the perforation. These complications are—1, anterior synechia; 2, prolapse of the iris; 3, central capsular cataract; 4, displacement or obliteration of the pupil; 5, anterior staphyloma; 6, if the perforation is very extensive, or the cornea sloughs, more or less of the contents of the eyeball are evacuated, and the globe generally shrinks and atrophies, or general inflammation of the eyeball (panophthalmitis) first ensues. Iritis may also supervene upon the affection of the cornea.

The disease is generally due to contagion, produced by gonorrhœa, leucorrhœa, or some other vaginal discharge. Sometimes the sponges or cloths used for washing the child are the carriers of the contagion. External irritants, such as exposure of the eyes to cold, bright light, dust, &c., are also a frequent cause. If the disease is due to contagion, the primary symptoms manifest themselves within the first two or three days; if to external irritants, three or four weeks may elapse before their appearance.

The prognosis is, as a rule, favorable, more especially if the disease is mild in character, and is seen at the very outset; if the cornea is not affected, and if proper care and treatment can be enforced.

The first indication in the treatment of ophthalmia neonatorum is cleanliness. The infant's eyes should be washed directly after birth, and the greatest care

be taken that the same sponges, cloths, water, &c., are not used for the mother and child. The latter should not be exposed to cold winds or draughts, or bright, glaring light, &c. If its eyes are red and irritable, and there is a little muco-purulent discharge, a weak collyrium of sulphate of zinc or alum (one or two grains to an ounce of distilled water) should be applied two or three times daily. But if the inflammation runs high, and the discharge is thick, creamy, and copious, stronger astringents must be employed. In out-patient practice, where we cannot see the patients daily, the use of the following injection will be found the best mode of treatment: Sulphate of zinc, two grains; alum, four grains; distilled water, one ounce. Some of this is to be injected with a small glass syringe, between the lids every fifteen or thirty minutes during the day, and every two or three hours at night; the frequency of the application and the strength of the injection varying with the exigencies of the case. Before it is employed, the eye should be cleansed with an injection of lukewarm water, so that the discharge may be washed away. Every day or two a drop of a strong solution of nitrate of silver (from four to ten grains to the ounce) may be applied. If only one eye is affected, the other should be protected against contagion by a firm pad of cotton-wool and bandage, this being removed twice daily so that the eye may be washed. If the patient can be seen once or twice daily, Mr. Wells prefers to apply the mitigated crayon of nitrate of silver (one part of nitrate of silver to one or two parts of nitrate of potash) to the conjunctiva, as we can regulate and localize its effect better. The lids being well everted, the crayon is to be lightly applied to the palpebral conjunctiva, its action being at once neutralized by a copious application of salt and water. If there is great swelling of the conjunctiva, the latter is to be freely but very superficially scarified with a small scalpel directly after the neutralization of the caustic. Then cold (perhaps iced) compresses should be applied to the lids, to diminish the inflammatory reaction, and assist in the contraction of the bloodvessels; but great care and circumspection are required in their employment, for if they are continued too long they may prove very injuries. If the edges of the lids are sore and excoriated, a little citrine ointment should be applied. When the disease presents the cyanotic character, and the discharge is weak and flaky, the nitrate of silver must be used with great caution. Wecker recommends small doses of mercury in such cases. Should the cornea become cloudy or ulcerated, atropine drops (two grains in an ounce of water) are to be used three or four times daily, the astringent treatment being continued as before. If the ulcer threatens to perforate, it should be pricked with a fine needle, and the aqueous humor be allowed to flow off very gently; this may have to be repeated several times. If perforation has taken place, and there is prolapse of the iris, the latter should be pricked with a needle, and on the aqueous escaping the prolapse will collapse, and then a firm compress bandage should be applied. It may be advisable to repeat the pricking of the prolapse several times. If the prolapse is large, it should first be pricked, and then snipped off with a pair of scissors. When the perforation of the cornea is extensive, and the lens is bulging into it, an incision should be made in the cornea, and the lens be allowed to escape, a firm compress bandage being at once applied. We may thus succeed in saving a sufficient amount of clear cornea to permit of the formation of an artificial pupil at a subsequent period, and then perhaps save a certain degree of vision.

Art. 153.—*On Iritis.*

By Professor J. Soelberg Wells.

(*The Lancet*, September 18.)

Amongst the various causes of iritis must be especially mentioned rheumatism; exposure to cold winds, damp, &c.; syphilis; and wounds and injuries of the eye. Traumatic iritis often assumes the parenchymatous or suppurative form, and occasionally the serous. Iritis may also supervene secondarily upon an inflammation of other tissues of the eye.

With regard to the treatment, Mr. Wells strongly insists upon the extreme importance of widely dilating the pupil by atropine as soon as possible. Thus the chief danger—the formation of thick, firm, posterior synechiæ—is obviated; for these synechiæ are the most fruitful source of obstinate recurrent iritis, and are often also the cause of the extension of the inflammation to the ciliary body and choroid. Moreover, the dilatation affords rest to the inflamed muscular tissue of the iris; the tension and congestion of the eye are diminished, and the ciliary neuralgia relieved. In a healthy eye an extremely weak solution of atropine will suffice to produce wide dilatation; but in iritis a strong solution (four grains to the ounce) is necessary; for, on account of the inflammatory swelling of the tissue of the iris, and of the effusion of lymph amongst its fibrillæ, great resistance is offered to the action of the atropine. The author generally directs the patient to apply the strong solution at an interval of five minutes for half an hour at a time, to be repeated two or three times daily, until wide dilatation is obtained, or the effect is negative. But sometimes no effect is produced until the inflammatory irritation and eye-tension have been relieved by leeches or paracentesis. If the pupil is tied down by firm, unyielding synechiæ, atropine should be only used in moderation, for the purpose of soothing the eye. Should it subsequently cause irritation or conjunctivitis, a mild astringent or belladonna collyrium (extract of belladonna, half a drachm, to two ounces of distilled water) should be substituted. If the ciliary neuralgia is severe, leeches should be applied to the temple, and hot poppy or laudanum fomentations to the eye; and if the pain does not yield, a subcutaneous injection of morphia should be administered. Mercury need only be given if there is a very considerable exudation of lymph at the edge of the pupil, on the surface of the iris, or into the anterior chamber; or if there is a syphilitic taint, and the disease assumes a specific character. Mr. Wells prefers inunction to the administration of mercury by the mouth, and generally prescribes from half a drachm to a drachm of the mercurial ointment, to be rubbed in two or three times daily. The constant application of hot-water compresses to the eye often causes rapid absorption of the tubercles in the iris and of an hypopyon; but as they have to be continued without intermission day and night, few patients can or will submit to the trouble and inconvenience. In obstinate syphilitic iritis great benefit is also experienced from the administration of large doses of iodide of potassium. If the hypopyon is considerable, paracentesis must be performed, and, if necessary, repeated perhaps several times. But if the iritis is very severe and obstinate, resisting more remedies, more especially if there are firm and extensive synechiæ, if the pupil is occluded, or the tension markedly increased, it is best to perform iridectomy at once, for this often affords the most striking benefit. In serious iritis the free action of the skin and kidneys should be maintained, atropine should be applied, together with a suppurating blister behind the ear. If symptoms of a glaucomatous nature supervene, paracentesis may be tried; but if it does not suffice, no time must be lost in performing iridectomy. In rheumatic iritis, the administration of the oil of turpentine, as first recommended by Dr. Carmichael, often proves very efficacious, although it is apt to produce derangement of the stomach.

Art. 154.—*Irido-Choroiditis.*

By Professor J. Soelberg Wells.

(*The Lancet*, November 6.)

Although we constantly observe numerous varieties of irido-choroiditis, we may yet practically divide them into two principal classes, the typical cases of which are distinguished by well-marked differences. It must be clearly understood, however, that we often meet with mixed forms, in which some of the symptoms of each class are present.

In the first form, the disease generally commences with iritis, terminating in circular synechia; a portion of the pupillary area, perhaps, remaining clear and the sight tolerably good. Then there appear peculiar knob-like bulgings of the

iris, which may be partial or involve its whole surface, and which are due to a collection of fluid behind the iris. The pupil, being completely adherent, cannot of course yield to the pressure of the fluid, but remains *in situ*, and is sunk back or depressed in the centre of the bulgings. If the latter are considerable, they protrude far into the anterior chamber, and their apex may even touch the cornea. Towards the periphery the sloping of the bulge is gradual, but towards the pupil it is steep and sudden. The iris is mostly discolored and attenuated, its fibrillæ opened up, and on its surface are noticed a few dilated tortuous veins. The eye-tension varies according to the stage of the disease: at first it is generally normal, but then it often augments; finally, however, it diminishes more and more until the eye may become atrophied. If the refracting media remain sufficiently clear to permit of an ophthalmoscopic examination, we find the vitreous humor generally diffusely clouded, with floating or fixed opacities suspended in it; there are also, perhaps, inflammatory changes in the choroid, and an opacity at the posterior pole of the lens.

In the second form the anterior chamber is also very shallow, the iris much discolored, and its fibrillæ indistinct and stretched; and large tortuous veins are noticed on its surface, which is very pathognomonic of stasis in the circulation of the iris and ciliary body. The pupil is completely adherent and more or less occupied by lymph. The whole plane of the iris is pushed forward, so that the anterior chamber is greatly diminished in size; but the pupil is on a level with the iris, and is not drawn back into a crater-like depression, and the surface of the iris is flat and not bulged forward into little knuckles. The advancement of the iris is not due to fluid behind it, but to the pressure of the lens and thick masses of exudation; for the capsule is more or less extensively and closely connected with the posterior surface of the iris by firm, dense, felt-like deposits of lymph. Although the lens may remain clear, the intra-capsular cells generally proliferate and become opaque, the nutrition of the lens in the vicinity is impaired, and it but too often becomes cataractous.

In irido-choroiditis the inflammation may commence in the iris, and extend thence to the ciliary body and choroid; or the reverse may occur—it may begin in the choroid and only secondarily and at a later period invade the iris. At an advanced stage of the disease it is often difficult to determine which course it has pursued. The following data will, however, afford some assistance in arriving at a conclusion upon this point. If the inflammation began in the iris, we generally find the structure of the latter much discolored, attenuated, and atrophied, there having been repeated attacks of iritis; cataract is also less frequent, and occurs only at a later stage. The impairment of vision is less, being at first chiefly dependent on the lymph in the pupil, and only subsequently on cloudiness of the lens or vitreous humor; whereas if the inflammation began in the choroid, there are marked symptoms of choroiditis, the vitreous becomes hazy, the retina perhaps detached, the eye-tension diminished, and the lens cataractous. The degree of sight and the state of the field of vision are usually much more affected than when the inflammation commenced in the iris. The opacity of the lens frequently begins at the posterior pole, whence it may gradually extend, or it may remain stationary for a long time. This is termed "posterior polar cataract."

In cases of obstinate recurrent iritis or of irido-choroiditis, iridectomy should be at once performed. But as the tissue of the iris is often very atrophied and rotten, it may be impossible to obtain at once a sufficiently large artificial pupil, and hence it may be necessary to repeat the operation. If the tendency to a recurrence of the inflammation persists after the first operation, much benefit is often experienced by making a second iridectomy in the opposite direction to the first, so as completely to cut off the two halves of the iris from each other. We not unfrequently find that the sight is but little improved by an iridectomy, and on closer examination with the oblique illumination the artificial pupil is seen to be occupied by uveal pigment, which has become detached from the iris. Now the possibility of this should always be borne in mind when we give a prognosis of the probable result of the operation. In such cases, a second iridectomy should be made in another direction, in the hopes of obtaining a clear pupil. If not, the lens will have to be extracted, for the layer of pigment is

generally so closely adherent to the capsule, that it is not safe to attempt its removal by scraping it, for fear of rupturing the capsule and producing a traumatic cataract.

In the second form of irido-choroiditis, in which thick masses of exudation are lodged upon the capsule, a simple iridectomy will not suffice. For we fail to remove a good portion of the rotten iris, and the attempt only sets up renewed inflammation and increased proliferation of the exudation masses. As it is generally quite impossible to remove the latter without rupturing the capsule and causing a traumatic cataract, which complicates matters still more, it is best, as Von Graefe has pointed out, to extract the lens before attempting the removal of the iris and exudation masses. A large incision is to be made downwards with Von Graefe's narrow cataract knife at the sclero-corneal junction, without, if possible, wounding the iris. But if the latter is much bulged forwards, the knife is to be carried boldly through it, which generally lacerates the capsule sufficiently to permit of the ready escape of the lens. If this is not the case, as much iris and false membrane should be torn away with a pair of forceps or a hook as will allow of the escape of the lens. Four or six weeks afterwards the artificial pupil should be made; the incision should be large, and a sharp-pointed hook be passed perpendicularly through the false membrane, and an opening of sufficient size torn in it.

As the success of the iridectomy and of the extraction of the lens in cases of irido-choroiditis is often invalidated by the contraction and subsequent closure of the artificial pupil, Mr. Bowman has devised the following operation, termed by him, "excision of the pupil," which has afforded favorable results. The puncture and counter-puncture may be made as in Von Graefe's operation for extraction of cataract (and with the same knife). The incision is not however, concluded, but a narrow bridge is left standing at its apex, which aids in preventing the escape of the vitreous. The blades of a pair of fine scissors are then introduced through the first incision (the puncture), and the one blade (blunt-pointed) passed in front of the iris; the other, which is sharp, pierces the iris and anterior capsule of the lens, and running down in front of the nucleus, and without moving it from its bed, a cut is made diagonally downwards as far as the centre of the lower part of the iris. The scissors are then withdrawn, and next introduced through the counter-puncture, and a similar incision made on this side, so that the two incisions meet at the lower part of the iris, including between them a large triangular piece of iris as well as the constrictor pupillæ. Finally the base of the triangle is divided by cutting through the upper portion of the iris lying between the puncture and counter-puncture, and the whole triangular piece is then removed, as well as any false membrane attached to it, with a pair of forceps. The bridge of cornea is then divided, and the lens removed in the usual manner. The operation has been varied by Mr. Bowman in two or three ways, according to the cases dealt with. When there is no lens to be removed, the bridge of cornea is not divided, as the operation is already complete. Sometimes the cut across the base of the iris, or the third above described, is not necessary, as the triangular portion of iris, including the pupil and capsule, admits of being easily torn off along the ciliary attachment. It is when there is a very dense and tough capsule of false membrane behind the iris that the third incision with scissors is chiefly required, as avoiding the dangerous dragging of the ciliary structures. In other instances, the entire section of the cornea has been made at one stroke without leaving the temporary bridge.

Mr. Bowman has also applied the same mode of operating to cases of dense membranous obstruction of the iris region, where the lens has been previously removed, and to these he considers it to be particularly applicable, especially if its performance be delayed until all signs of inflammatory tendency have entirely disappeared.

ART. 155.—*Inflammation of the Lachrymal Sac (Dacryocystitis.)*

By Professor J. SOELBERG WELLS.

(*The Lancet*, November 13.)

In treating cases of acute dacryocystitis our first endeavor is to obtain a good-sized opening into the sac, so as to permit of the free escape of the discharge. This may be effected either by making an incision into the sac through the skin, or by dividing the punctum and canaliculus quite into the sac.

The following is the latter mode of treatment: The opening may be made either by the lower or the upper punctum. In the former case, a grooved director is to be passed through the lower punctum and canaliculus, and these are to be divided upon the director with Sichel's extraction knife. Instead of the director and cataract knife, we may employ a very fine pair of straight blunt-pointed scissors, the one blade of which is to be inserted into the lower punctum, and run along to the extremity of the canaliculus, and then divided at one snip. Mr. Wells, however, prefers Bowman's narrow, probe-pointed canaliculus knife, which is inserted into the punctum, and run, with its cutting edge upwards, along the canaliculus quite up to its extremity, and the latter can then be easily divided along its whole extent by lifting the knife from heel to point. The extremity and blade of the knife should be very narrow, otherwise it will be very difficult to introduce it if the punctum is small.

Mr. Wells thinks it better still to divide the upper punctum and canaliculus, for we then obtain a freer opening into the sac. This may be done with the director and cataract knife, or with Weber's beak-pointed knife. The little nodular beak point is to be inserted into the upper punctum and passed along the canaliculus into the sac, and the canaliculus divided to its whole extent. The instrument should then be passed somewhat further into the sac, and the internal palpebral ligament divided subcutaneously with a slightly sawing movement, the cutting edge of the blade being turned forwards and outwards. During the division it will be felt to grate a little. In this way we shall gain a very free opening into the sac, and afford ready access to the matter. A probe may then be passed to dilate the lower opening of the sac and the nasal duct. But if the mucous lining of the sac is much inflamed, it is better to abstain from the probing for a few days, as it only tends to irritate and excite fresh inflammation. After a free exit has been obtained for the discharge, the inflammatory symptoms rapidly subside, the pain is at once relieved, and the swelling disappears. Moreover, by the timely employment of this mode of treatment we may prevent spontaneous perforation, even when the skin over the abscess has already become very thin. But if perforation is imminent, the sac should be freely opened with a scalpel, the incision running in a downward and outward direction, and being of a sufficient size to permit of the ready escape of the pus. A narrow strip of lint should be inserted into the sac, so as to keep the wound patent and permit of the draining off of the matter. A warm poultice is to be applied after the operation, and frequently changed. We may divide the upper canaliculus at the same time, which saves the patient the annoyance of two separate operations; or this may be postponed for a few days until the inflammatory symptoms have abated, and a probe should then be passed through the sac and nasal duct, so that a free passage may be gained for the tears and discharge. If perforation of the sac has already taken place before the surgeon saw the case, the upper canaliculus and neck of the sac should be freely divided and a probe passed daily. The irregular ragged opening in the skin should be lightly touched with sulphate of copper, which will soon cause it to cicatrize. If any fistulous openings exist in connection with diverticula, they should be laid open and caused to heal from the bottom. In chronic inflammation of the sac, accompanied by an obstinate muco-purulent discharge, the treatment by division of the canaliculus and the passing of probes often does not suffice. In such cases the sac should be syringed out with an astringent injection (two to four grains of sulphate of zinc, or two grains of alum to one ounce of distilled water); to be repeated every day, or every other day.

[Two cases are related by Mr. Wells; one, an example of acute dacryocystitis, and the other of long-standing and obstinate blennorrhœa of the sac, which was finally cured by Stelling's operation.]

ART. 156.—*Cases of Iritis occurring in Syphilis Treated without Mercury.*[1]

By G. G. GASCOYEN, F.R.C.S.

(*Medical Times and Gazette*, July 24.)

The paper contains a record of eighteen cases of syphilitic iritis which were successfully treated without mercury. Other symptoms of syphilis were present in all these cases; in seven of them there had been no previous treatment for the constitutional disease, and in eleven who were taking mercury when the iritis supervened, but who were not under its influence, the drug was at once discontinued. The treatment adopted was to place some drops of atropine solution, containing four grains to an ounce of water, in the eye three or four times daily; this was continued until the lymph had entirely disappeared and the natural color of the eye returned. The average time during which the drops were employed was twenty-four days, and no ill effects of any kind attended their application. Leeches were applied to the temple when there was much conjunctival redness, or, in less acute cases, blisters. Tonics, and to some debilitated patients wine, were given, but, when febrile symptoms were present, a simple saline mixture; opium was freely administered if pain were present. In all the recent cases the eye perfectly recovered, but in five severe old-standing cases, where firm adhesions had formed before the patient came under treatment, irregularity of the pupil remained, although useful vision was regained in each. Double iritis was present in four instances, and relapses occurred in two; they all, however, recovered completely under the same plan of treatment. Great stress is laid upon the importance of carefully neutralizing the atropine solution, and it is considered that inattention to this, and the very great frequency with which instillation of the drops has sometimes been practised, have, by irritating the eye, led to most of the untoward symptoms attributed to the use of atropine in recent iritis. The author considered that the large majority of cases of so-called syphilitic iritis commence with inflammation of the conjunctiva, which, like the other exposed mucous surfaces of the body, is peculiarly liable to congestion in syphilitic persons from very slight causes, and that the iris is attacked secondarily to this. The ocular portion of the conjunctiva is supplied by the anterior ciliary vessel as well as the iris; engorgement of the conjunctival vessels, therefore, is followed by the same condition in the iris, and soon determines inflammation. Examples of this kind are met with during the earlier period of constitutional syphilis, and the symptoms they present are so similar to those of syphilitic iritis, that, unless other syphilitic manifestations be present, the specific variety cannot be distinguished from the other. The author does not regard these as cases of true syphilitic iritis, but of simple inflammation of the aqueous chamber and surface of the iris, resulting from an extension of the conjunctival inflammation. Although excited by, they are not dependent upon, the syphilitic taint, and in their progress they differ in no respect from ordinary inflammation of a serous cavity in any other part of the body, and possess the tendency to deposition of lymph, formation of adhesion, etc., which is characteristic of this affection. For such, mercury is not required unless the peculiar property claimed for the drug in controlling serous inflammation be admitted, and respecting this there is at least much difference of opinion. There are, however, other cases, fortunately not very numerous, in which the iris is primarily attacked; these are indicative of a thorough and general contamination by syphilis, and are entirely

---

[1] Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, May 25.

dependent upon that disease. They occur during the more advanced period of syphilis, and are characterized by their painless chronic progress, and the formation of large nodular masses in the iris without previous implication of the other parts of the eye. The opinions of the best modern observers with regard to the nature of these peculiar tumors of the iris are considered; and although these authorities recognize the identity in composition between them and the gummatous tumors of other parts, they yet class iritis with the secondary affections of syphilis. The author, however, regards this disease of the eye, which he looks upon as true syphilitic iritis, as belonging to the more advanced, or so-called tertiary, stage of syphilis, and contemporaneous with ulcerations, nodes, etc., for which class of affections mercury is almost universally discarded, and therefore, although acknowledging the great value of mercury in many forms of syphilitic disease, he recommends its discontinuance in syphilitic iritis.

Mr. Dixon said that, if Mr. Gascoyen had given mercury, he might have headed his paper "Cases *cured* by Mercury." Iritis does not last forever, but we want, if possible, to cut it short. He was certain that he had cured thousands of cases by mercury. The treatment recommended was dangerous. There was also a want of precision in the paper. They wanted a few cases well described—what type the patient could read at given times, and so on. Patches of adhesion might have been left. Many cases of so-called iritis were found to be not really so if the pupils were dilated and the ophthalmoscope used. If the inflammation was deep-seated, atropine would be useless, as it only affected the pupil. If mercury gave such undeniably good results, he could not see his way to throwing it overboard. Small doses of the remedy were quite sufficient. Bloodletting was useless. Many years ago he had written a good deal against the use of belladonna in iritis, but he had changed his mind now.

Mr. H. Lee said that they could not well consider mercury with regard to iritis alone. There was no structure affected with secondary syphilis which might not get well of itself, but the question was, Will it recover sooner under the influence of mercury, and will it have a less tendency to relapse? Cases show that iritis might get well without mercury, but the most important point was the future of the patient. If mercury be not given, they will relapse; with mercury a large proportion never relapse. He regretted the separation of secondary and tertiary symptoms. He differed as to the distinction in treatment recommended. Mercury did as much good in tertiary as in secondary syphilis.

Mr. B. Carter thought few ophthalmologists could go far with Mr. Gascoyen, although he concurred as to the existence of special deposits in tertiary syphilis. Superficial disease of the eye might run its course without deep-seated disease, and he did not know that inflammation was ever reflected by means of the bloodvessels. He believed iritis to be primarily a nerve lesion, of which there were three causes, rheumatism, syphilis, and direct injury. The two former sets of causes act through the nerves. Pridgin Teale had already shown that atropine was sufficient as a remedy in about one half of the cases: in the other half mercury was necessary. He saw a case beginning the other day which atropine did not arrest. He asked if there were any adhesions left after the reported cure; if so, the disease would be apt to return.

ART. 157.—*Curious Instance of Occasional Sudden Failure of Sight.*

Under the care of Mr. HUTCHINSON, at the Moorfields Ophthalmic Hospital.

(*Medical Times and Gazette*, September 18.)

A young woman applied at Moorfields, complaining of occasional failure of sight. In an ordinary way her sight was, she said, excellent, but very frequently it would become so misty that she could not see small objects. These attacks were especially liable to occur in the evening, but sometimes in the daylight any slight mental shock would cause them. She was accustomed to work at a sewing machine, and often for half an hour together she would be obliged to

give it up from inability to see. She particularly mentioned that any slight mental shock would cause it, such, for instance, as the accident of breaking her needle at work, or suddenly meeting any one in the street. She had never been left in darkness, but during the attacks all objects became hazy and indistinct. On testing her vision she read brilliant easily, and read 20 at 20′.

Mr. Hutchinson remarked that two theories might be suggest to explain this curious symptom. It might be one of the cases of so-called "epilepsy of the retina," in which the bloodvessels suddenly become emptied; or it might be an instance of latent hypermetropia, with sudden failure of the overworked ciliary muscle. The latter proved to be the correct one. After atropine had been put into one eye, she could not, even with a diaphragm, see more than 50 at 20′, and required + 10 to enable her to see 20. Thus there could be no doubt that she was constantly exerting her accommodation to the utmost, and that its sudden failure was the cause of her loss of sight. We may remark that sudden seizures, such as she complains of, are not a common symptom in hypermetropia. It is far more frequent to have prolonged symptoms of over-fatigue and its resulting asthenopia than to have periods of perfect sight alternating with those of complete suspension of the accommodation function. The case is, perhaps, allied to the group sketched out by Mr. Paget under the ingenious title of "stammering by other organs than those of speech;" at least, in so far as mental emotion appears to be the exciting cause.

ART. 158.—*Occurrence of Amaurotic Amblyopia long after the Injury, in Cases of Concussion of the Spinal Marrow.*

By Prof. T. WHARTON JONES, F.R.S.

(*British Medical Journal*, July 24.)

Professor Jones records four cases of this kind. In these cases the failure of sight was not experienced until some considerable time after the injury, which the author observes would tend to show that the affection of the eyes arose from a disturbance of the circulation, and consequent impairment of nutrition, leading slowly to degeneration of structure of the optic nerve and retina. "The part of the sympathetic system," says Professor Jones, "on which the healthy circulation in the eye and the due nutrition of the organ depend, has its roots in the spinal marrow in the region of the lower part of the neck and upper part of the back. Thence the nerve fibres pass to the sympathetic in the neck through the hypoglossal nerve and the anterior roots of the two last cervical and two or three uppermost dorsal spinal nerves. From the sympathetic in the neck, the internal carotid plexus arises, and from this are detached fibrils, which, having passed from the cranium into the orbit, enter the eyeball, and are distributed to the muscular walls of the arteries of its internal tunics. Through these fibrils the sympathetic governs the contractions of the walls[1] of the arteries, and so regulates the variations in the width of their calibre. Variations in the width of the arteries of an organ imply, it is to be remembered, modifications in the flow of blood in the part, independently of the general effect of the heart's action. Thus it is that the healthy circulation in the eyes and certain other parts of the head, and their due nutrition, depend on the integrity of the sympathetic nerves in the neck.

"Lesion of the sympathetic nerve in the neck is followed by such a disturbance of the circulation in the eye, and consequently such changes in the nutritive process, as to lead to degeneration of structure and impairment of function.

"In the cases which have been related, the roots of the sympathetic in the neck must necessarily have participated in the injury which the spinal marrow sustained from the concussion in the accidents, on which the failure of sight supervened. The effect has been the disturbance of the circulation in the optic

[1] The radiating muscular fibres of the iris are also under the government of the same part of the sympathetic nerve, being supplied with nerve fibrils therefrom. But this is a point which does not immediately belong to our present subject.

nerve and the internal tunics of the eyes, from which the deteriorated nutrition causing the impairment of sight, has directly resulted.

"That the eyes thus suffer from injury of the sympathetic nerves in the neck, the old experiments of Petit, and the more recent ones of Reid, Claude Bernard, Brown-Séquard, and many others have demonstrated. Section of the sympathetic in the neck of a dog, cat, or rabbit in the experiments referred to, was followed by vascular congestion and disturbed nutrition of the eye of the same side, leading, in some cases, to destruction of the organ, by penetrating ulcerations, or even sloughing, of the cornea, and evacuation of the humors.

"The occurrence of inflammatory congestion of the eye after section of the sympathetic in the neck was, in the first edition of my work on *Ophthalmic Medicine and Surgery*, attributed to the consequent paralysis of the walls of the bloodvessels of the eye; and microscopical observations recorded in my essay on the *State of the Blood and the Bloodvessels in Inflammation*, published in 1850, showed, in illustration and corroboration of this view, that section of the ischiatic nerve in the frog, *which contains*, mixed up with the ordinary sensitive and motor fibrils, *the sympathetic filaments* which are distributed to the arteries of the limbs, was followed by dilatation of the arteries, with a fuller and more rapid circulation in the web. The blood in the capillaries and veins being, at the same time, unusually loaded with red corpuscles, the general effect to the naked eye was increased redness, not only of the web, but of the whole limb. An eventful result was opacity of the web, indicating an altered state of nutrition.

"In the cases related in the first part of this paper, the eyes, though seriously impaired in function, have not suffered disorganization such as was observed in the animals subjected to the experiment of dividing the trunk of the sympathetic in the neck. In the latter cases, the influence of the sympathetic on the circulation in the eye was completely cut off. In the former, the injury to the sympathetic, from the concussion of the spinal marrow, has been such only as to impair and pervert its influence on the circulation in the eye. It is to be remarked that the subjective symptoms which first attract notice in such cases may exist for some time without any material alteration of structure being distinctly observable under the ophthalmoscope. It is also to be remarked, in conclusion, that the inability which the patients labored under to exert their sight for any ordinary length of time, which accompanied the amaurotic failure of sight, was different from the common fôrm of asthenopia. The inability to exert the sight was owing, partly, to the irritable congested state of the eyes, and was, partly, one manifestation, among others, of the impaired energy of body—sense and mind generally—which we saw to be a characteristic of all the cases which have been passed under review.

Art. 159.—*Hyperæsthesia of the Ciliary Muscle.*

By Professor Ed. Junge, St. Petersburg.

(*Zehender's Monatsblätter für Augenheilk*, 1868, p. 244; *Edinburgh Medical Journal*, December.)

This affection is characterized by accession of pain whenever the power of accommodation is called into play by looking at a near object, the pain having its seat in the eye itself, and to a less degree in the parts around it. When the accommodation is completely rested, the eye is free from pain. The extent of accommodation is normal or slightly diminished. Atropine scarcely lessens the refractive power of the eye, and spectacles do not in the least relieve the complaint. This affection occurs most frequently in patients who are hypermetropic, but also in myopes, and even in persons whose accommodation is otherwise normal (emmetropic). Certain circumstances may predipose to the occurrence of this hyperæsthesia, but the disease may be viewed as essentially of a neuralgic character. Professor Junge relates a typical case—that of a lady, twenty-one years of age, who was short-sighted from childhood. On examination, the degree of myopia was found to be considerable (1-6th), of vision good

(20-30ths). With the ophthalmoscope staphyloma posticum was observed, and capillary injection of the optic nerve. There was no trace of insufficiency of the internal recti muscles. The pupils were of natural size. Under the use of atropine, the degree of myopia slightly diminished (to 1-7th), and the injection of the optic nerve likewise became lessened. The patient read best without spectacles, and could not endure them even for distant vision, on account of the pain and fatigue they induced. She was very anæmic, feeble, and nervous, very easily fatigued, and readily influenced by external circumstances. She also could not bear almost any medicine—quinine even in the smallest doses soon produced narcotic effects. Pain in the eye evinced itself for the first time when the system had been generally disordered, about a year previously; since which time the pain has frequently returned. It sometimes continued steadily for a certain time, becoming increased when the power of accommodation was exerted; at other times it only came on when the patient read or looked at near objects, and disappeared when the eye was rested. The pain was often of a burning character, and attended with sensitiveness to light and feeling of great fatigue. It sometimes was of a periodic character, returning daily at four or eight o'clock, and lasting for half an hour or an hour. This pain yielded to the administration of quinine. The hyperæsthesia was generally most marked when the patient's general debility was in any way increased. Under atropine the pain in the eye disappeared, but returned when its use was intermitted. But even when under the action of atropine the patient could not read without inducing pain in the eye, although the accommodation was thoroughly paralyzed. During these attacks the conjunctiva sometimes became injected, but this yielded to weak lotions of sulphate of zinc and nitrate of silver. Considerable relief was experienced from the use of the cold douche.

From a careful consideration of all the symptoms of the case, Professor Junge conclusively argues that hyperæsthesia of the ciliary muscle is the only satisfactory explanation of the nature of the affection.

ART. 160.—*On the Abuse of Atropine as a Collyrium and the Injudicious Employment of Collyria in general.*

By Dr. J. SICHEL.

(*Annales d'Oculistique*, tome lix. p. 155; and *Edinburgh Medical Journal*, December.)

Dr. Sichel is of opinion that, while the local application of the sulphate of atropine is of the greatest benefit when employed in suitable cases, this remedy is far too generally had recourse to in affections where its employment is neither necessary nor beneficial. He disapproves of the treatment of iritis by atropine collyria *alone*, without the simultaneous employment of antiphlogistic treatment. The treatment of iritis by atropine is founded on the erroneous assumption that dilatation of the pupil prevents the occurrence of iritis. Dr. Sichel, on the contrary, maintains that he has observed iritis to occur when the pupil was thoroughly dilated. He performs some experiments on rabbits and other animals, with the view of testing this point. He dilated their pupils thoroughly with atropine, and then, introducing a cataract needle, lacerated the iris; and he found iritis to occur notwithstanding the mydriasis and the continued application of atropine. Still less does he consider atropine collyria beneficial in pustular and granular conjunctivitis or interstitial or vascular keratitis. Under this treatment the conjunctival and corneal inflammations are aggravated, while the dilatation of the pupil admits more light to the interior of the eye, and thus increases the irritation of the retina. Even when applied to the healthy eye, this alkaloid produces persistent conjunctival injection, or an external ophthalmia. In cases where the pure atropine produces this external irritation, Dr. Sichel recommends glycerine to be added to the collyrium (atrop. sulph. neut. gr. 3-10ths, aquæ destil. ʒv. glycerine ʒijss). The collyrium should be used at first only once a day, and after the application the eye should be bathed for five or six minutes with a sponge dipped in cold water.

Dr. Sichel also refers to the poisonous effects sometimes produced by atropine collyria, which he attributes to the extensive use of atropine in eye-practice, and to the strong solutions employed. The collyrium should be employed with a fine camel-hair pencil to the inner surface of the lids, at the outer commissure. The lids are then to be closed, and the skin brushed over with the solution. Thus, only an infinitesimal portion of the collyrium reaches the puncta. As usually applied, the collyrium is dropped in at the inner commissure of the lids, and thus passes more readily through the tear-passages to the œsophagus, while the excess may flow over the cheeks, and into the mouth if not dried up.

ART. 161.—*Vesicular Body (Cyst) in the Anterior Chamber—Extraction.*

By Prof. BUSINELLI.

(*Annales d'Oculistique*, tome lx. p. 168.)

Professor Businelli (Modena) records the following case: A peasant, twenty-six years of age, applied for advice on account of an affection of his left eye. On examination a small round body was observed at the bottom of the anterior chamber of that eye. It was of the size of a butterfly's egg, and of a light yellow color. In rapid movements of the eye from side to side it left its ordinary situation, which, however, it rapidly resumed. On examination with a lens, a very slender, transparent filament, springing from the external inferior pupillary margin of the iris, was observed, by which this body was suspended. This explained the pendulum-like movements it was observed to make when the direction of the eye was suddenly altered. The eye otherwise presented no morbid alterations that might serve to throw light on the origin of the above-described body. The conjunctiva was injected as in chronic catarrh, and the upper part of the cornea slightly opaque and traversed by several small vessels indicating chronic conjunctivitis, probably neglected, of a scrofulous nature. The iris was normal, the pupil central, round, and exhibiting no trace of formal affection of the iris. Vision somewhat enfeebled on account of corneal opacity. The right eye was quite normal.

As careful examination failed to detect any spontaneous alteration in form in the vesicular body, Professor Businelli decided that it was not a cysticercus; neither, from the appearance of the eye, could it be the result of iritic inflammation, or due to the presence of a foreign body which had penetrated the coats of the eye. Professor Businelli removed the cyst through an incision in the cornea, and the patient left the hospital four days after with improved sight.

Under the microscope the cyst presented chiefly the appearance of atrophied iris tissue. M. Businelli is of opinion that the cyst was composed of the residue of the fœtal pupillary membrane, and that the contents of the vesicle could only be aqueous humor, which had penetrated by endosmosis.

ART. 162.—*Case of Pemphigus of the Conjunctiva.*

(*Zehender's Monatsblatter für Augenheilk.*, 1868, p. 232; and *Edinburgh Medical Journal*, December.)

The following is a condensed account of an example of this rare disease: Herr Raquet, sixty-eight years of age, has suffered for twelve years from pemphigus, which latterly confined itself to the face and the mucous membrane of the jaws. He underwent several courses of arsenic while under Prof. Hardy for six years without material benefit. A year after the commencement of the skin-disease the eyes became injected and yielded a mucous secretion, but this disappeared under the use of sulphate of zinc wash. As the irritation of the conjunctiva returned he applied for further advice to a doctor in Paris, who probed the lachrymal canal, with the effect of increasing the conjunctival affection, after which, in the left eye, a fold of conjunctiva appeared to stretch from the inner angle towards the cornea. The mobility of the left eye became more and more

restricted, ulceration of the cornea occurred, and, fifteen months after the probing of the canal, the lids had become almost entirely adherent to the globe. The cornea, which can only be partially seen through the narrow opening between the lids, is affected with xerosis, and vision is restricted to mere quantitative perception of light. The right eye is less affected, although here, too, the edges of the lids are adherent to the globe throughout their inner third. The conjunctiva is slightly hyperæmic, and exhibits a few papillary elevations and a smooth epithelial covering. The cornea is normal, and the sight excellent, only somewhat interfered with by the constant watering of the eye and a slight secretion of mucus. The patient states that periodically the eye becomes more inflamed, and then for two or three days is painful. Herr Raquet remained under observation several months, when it became evident that these exacerbations were connected with the breaking out of the pemphigus eruption on the face and mouth every three or four weeks. On two such occasions a gray vesicular elevation of the conjunctiva was observed, close to the oculo-palpebral fold. Twenty-four hours later the conjunctiva exhibited at this spot a slight erosion covered by a grayish secretion, and two days after appeared to be quite healed. After these attacks the motion of the eye appeared somewhat more limited. The treatment pursued consisted in a careful plucking of all the eyelashes, washing with weak lead lotion or milk, and moistening the lids very regularly with glycerine. Arsenic was also administered internally.

A similar case, recorded by Mr. White Cooper, is also referred to.

ART. 163.—*On Recent Improvements in the Operative Surgery of the Eye.*[1] By THOMAS BICKERTON, F.R.C.S. Edin., Surgeon, Eye and Ear Infirmary, Liverpool.

(*Liverpool Medical and Surgical Reports*, October.)

The author, after preluding his remarks by a few general observations on the recent advances in this department, aided greatly by the employment of the ophthalmoscope and by scientific research, proceeded to describe the operative treatment of certain diseases of the eye, and exhibited the instruments required. These various operations were described in the following order: Slitting open the puncta lachrymalia, and the use of Bowman's or Von Graefe's probes for stricture of the lachrymal duct. A mode of destroying "nævi materni" on the lids was next explained. Dr. Williams' method of treating trichiasis with caustic potash; the most recent mode of operating for entropion; Liebrich's subcutaneous division of muscles for squint; and excision of the eyeball, performed for the first time by Dr. Stoeber, in 1841, were fully explained. Mr. Bickerton stated that he had no faith in "abscission of the anterior half of the eyeball." The operation for soft cataract, by making a small incision into the cornea and evacuating the lens at different times, and extraction by suction, were next detailed. The author analyzed the various operations for hard cataract. Schuft's operation, he stated, had not given good results, and had been replaced by Von Graefe's modified linear extraction. By this latter method, Mr. Bickerton had obtained most excellent results. The various sources of origin of capsular cataract and its treatment were then explained. The object in making an artificial pupil, and the modes of operating, by removing a portion of the iris, by withdrawing a portion of the iris (termed iridodesis), and by incision of the iris, were next discussed. The author strongly advocated iridectomy. He stated that, in performing this operation he seldom gave chloroform, and used Graefe's narrow "extraction knife." He had also operated by making a conjunctival flap, as in the "modified linear extraction" operation, and had had satisfactory results. In considering the relative practical value of iridectomy, division of the ciliary ligament, and division of the ciliary muscle, he expressed the opinion that each was very useful in properly selected cases. The operations for puncturing the eyeball were fully entered into; and finally the evacuation of effusions between the retina, choroid, and sclerotic.

---

[1] Abstract of a paper read at the Liverpool Medical Association.

Art. 164.—*On Cancrum Oris.*[1]

By Thomas R. Glynn, M.B. Lond.

(*Liverpool Medical and Surgical Reports*, October.)

The author confined the term to those cases in which gangrene of the lips or cheeks is a prominent feature. He did not think it was of the nature of a specific disease; because, 1st. It never attacks children as a distinct disease preceded by characteristic symptoms, though some have affirmed that it does. 2d. It is always the consequence of some severe illness, especially of the eruptive fevers, and, of these, measles most frequently precedes it. 3d. It is not infectious, though sometimes epidemic, but only as a consequence of the exanthemata. It very rarely attacks several children in a family simultaneously. It appears to depend upon great deterioration of the blood, springing from a general adynamic state, which may originate from many and various depressing causes. It is much more rarely met with among adults than among children, though not unknown among the former. The facts that the mucous membrane of the mouth is more liable to disease in children, and that measles occur chiefly among them, account partly for their great liability to cancrum oris. It has been known to occur at so early an age as nine days. It rarely attacks both cheeks, except as the result of mercurial salivation. Girls are most subject to it, and the majority of cases occur in large towns and manufacturing districts. It is emphatically a disease of the poor. Sometimes symptoms almost like scurvy are present, and the author expressed the opinion that it is not improbable some intimate relation may exist between scurvy and cancrum oris. He did not believe that mercury is the most common cause of the disease, as some think. He considered the gangrene to be the result of a low, erysipelatous inflammation, commencing in the mucous membrane of the mouth. Gangrene of other parts may occur as complications, also pneumonia, which is very common, pleurisy, pericarditis, and other diseases of the mucous and serous membranes. The rate of mortality in cancrum oris has been excessively high. With regard to treatment, the author remarked that before applying escharotics, the general condition should be considered rather than the local. Nitric acid is useful at first, but its repeated application is injurious. Antiseptics are of great use. Tonics and stimulants constitute the proper internal treatment. The author gave the details of two cases, treated successfully by the use of chlorate of potash wash, and the internal administration of ammonia, chlorate of potash and bark, with beef-tea, wine, and brandy.

Art. 165.—*On Accumulation of Mucus within the Tympanum, and its Treatment by Incision of the Membrana Tympani.*

By James Hinton, Aural Surgeon, Guy's Hospital.

(*Guy's Hospital Reports*, vol. xiv.; and *British and Foreign Med.-Chir. Review*, October.)

An excessive secretion from the mucous lining of the tympanum, and its retention within the cavity of the ear, is a very frequent condition, and is not difficult to treat; but there is another class of cases, in which the secreted mucus is neither absorbed nor escapes through the Eustachian tube, nor finds its way through the membrana tympani, but remains for an indefinite period within the tympanic cavity, producing great deafness and general suffering. Although these cases have long been recognized, it is only lately that their great frequency has been understood, and the facility with which they may be cured by incision of the membrane has been appreciated. Mr. Hinton describes particularly the appearances presented in this affection, and he relates the par-

[1] Abstract of a paper read at a meeting of the Liverpool Medical Association.

ticulars of four cases which were treated by the plan described. He states that his remarks apply only to cases where mucus is retained within the tympanum, and not to suppuration; in which latter case the matter should be promptly evacuated by incision of the membrane, as has often, if not yet often enough, been insisted on.

ART. 166.—*On the Application of Caustics to the Ear.*

(*Archiv für Ohrenheilkunde*, June.)

Professor Schwartze states that in the treatment of suppurative catarrh of the middle ear by caustic lotions there is a risk, when the patient's head is placed in the horizontal position, of the solution passing into the opposite Eustachian tube, and setting up severe inflammation of the other, and probably healthy, ear. A case is related by Schwartze in which the repeated application of a strong solution of nitrate of silver, which was applied with the patient's head in the upright position, and was not subsequently neutralized by a solution of common salt, gave rise to suppurative inflammation of the middle ear on the opposite side, which necessitated artificial perforation of the membrana tympani, and, at a later date, in consequence of the extension of the mischief to the mastoid cells, trephining of this osseous process. Schwartze holds, for these reasons, that it is advisable to avoid a horizontal position of the head during the application of a strong lotion, but rather to keep it in such a position that the injected fluid can readily flow back from the auditory canal.

ART. 167.—*On Auditory Objective Bruits.*

By Dr. E. LEUDET.

(*Gazette Médicale de Paris*, No. 35.)

1. The ears are the seat of several varieties of bruit. Some are appreciable exclusively by the patient, and are called subjective; others are appreciable simultaneously both by the patient and by the observer and are called objective.

2. There exist various kinds of bruits; some are voluntary, others involuntary.

3. The involuntary objective bruits of the ears are rare: they may be muscular bruits. At other times they consist in a kind of crepitation and of crackling, and are identical with those which some persons can produce at will.

4. This involuntary crackling bruit in the ear may coincide with a tic in the face, and seems to be caused by a rhythmical convulsion of the internal muscle of the malleus, shaking of the chain of ossicles, and, consecutively, of the membrana tympani.

ART. 168.—*On Certain Sympathetic Nervous Phenomena which are Produced during Acute Inflammation of the Membrana Tympani, and frequently by merely Simple Compression of this Membrane.*[1]

By M. BONNAFONT.

(*Gazette Hebdomadaire*, No. 36.)

Acute inflammation of the membrana tympani may excite nervous phenomena simulating meningitis, and which may easily impose on an inexperienced practitioner, and cause him to think of some real disease of the meninges.

With regard to the symptoms, some are constant, such as pain, heat, humming noises, and a more or less marked dulness of hearing; but, in addition to these symptoms, there is a crowd of others which vary according to the indi-

---

[1] Communicated to the Académie des Sciences, August 23, 1869.

vidual. For instance, some experience very severe pains in the head, with vertigo; occasionally there are bruits in the ears, which are sometimes acute, sometimes serious, and may even simulate an orchestra, or the sound of bells, &c.

Compression of the membrana tympani, whether it occurs from within outwards, or from without inwards, always excites vertigo, the intensity of which is in a ratio to the idiosyncrasy of the patients; in some the application of a single drop of water to the membrane suffices to provoke them. When, in consequence of a pathological condition of this membrane, one is obliged to act upon it with a cutting instrument, the pain which results from the operation reacts sympathetically upon the lachrymal gland on the same side, and instantaneously produces an abundant secretion of tears; whilst, on the other hand, if one touches the same points of the membrane with a crayon of nitrate of silver, the patient experiences a slight pricking sensation on the same side of the tongue, accompanied with a metallic taste. These very curious and almost constant phenomena have also been observed by M. Duchenne.

ART. 169.—*On a New Method of Using Needles in the Operation for Harelip.*

By LAWSON TAIT.

(*The Lancet*, September 25.)

What Mr. Tait proposes is, that instead of two or more needles being introduced transversely through the flaps, they should be used in this manner: Having made what incisions he deems requisite for the operation (Mr. Tait here says that he has abandoned all the fancy manipulations for the old-fashioned straight incisions, removing plenty of tissue), the surgeon is to introduce two ordinary sempstress's needles, armed with a few inches of silver wire doubled, through the flaps, in the form of a St. Andrew's cross; the point of each needle is to be introduced through the mucous membrane of the lip, about half an inch from the edge of the flap, and brought out at the middle of the incision, then introduced into the other flap at the point opposite, and brought out at the root of the ala of the nose. The needles cross in the middle of the wound. The flaps are to be carefully adjusted, then the heads of the needles to be pushed fairly into the lip, and pulled together by twisting the wires; the points of the needles are then to be cut off close to the skin, and the stumps retracted into the flaps. In this way nothing is left to "catch," and when the needles are removed, by untwisting the wires and pulling by them, there are no scars left.

In the last case in which Mr. Tait used this method the parents of the child, aged seven years, say that it is scarcely possible for a stranger to tell that the child had been operated upon, and in this case there was a complete and very wide intermaxillary cleft, which Mr. Tait had previously closed.

ART. 170.—*On the Use of Chloroform in the Cure of Cleft Palate.*

By THOMAS SMITH, F.R.C.S., Assistant Surgeon to St. Bartholomew's, and Surgeon to the Hospital for Sick Children.

(*The Lancet*, August 14.)

In October, 1867, Mr. Smith presented to the Royal Medical and Chirurgical Society a paper on the "Cure of Cleft Palate by Operation in Children." In this he advocated the performace of the operation in early life, and described a species of gag by the aid of which the operation could be done under the influence of chloroform. A plan of operation was also described, more rapid of execution, and entailing less violence on the soft parts, than the method in ordinary use, and therefore more suited to the delicate tissues of young children. The advantages expected to result from the plan advocated were—1. The painless performance of the operation on patients of any age. 2. A much better result as regards articulation when the operation is done in early life

than when the cure is postponed until the usual age for operation. 3. The more complete cure of clefts in the bony palate, owning to the more vigorous bone-producing property of the periosteum in early life. The data upon which these expectations were founded were derived from the results in eleven cases—all that the author had at that time operated upon. The experience of himself and others during the last two years, and a much larger number of cases, have, Mr. Smith writes, justified the expectations he formerly entertained.

ART. 171.—*Case of Epithelioma of the Tongue. Complete Extirpation of the Organ. Return of the Disease.*

By GEO. E. FENWICK, M.D., Professor of Clinical Surgery, McGill University. Reported by GEO. ROSS, A.M., M.D., House Surgeon, Montreal General Hospital.

(*Canada Medical Journal*, August.)

Siméon Gauthier, aged forty-five, was admitted into the Montreal General Hospital on the 15th of February, 1869, suffering from epithelioma of the tongue. He is a man of good build, but sallow and unhealthy aspect; he has, however, always enjoyed fair average health. The ulcer occupies the left side of the tongue, about 1½ inch from the tip, and is about as large as a quarter dollar: it has the characteristic hard, raised edges, and a foul sloughy base. The floor of the mouth and under surface of the tongue are quite healthy in appearance. It has existed for only one month, and consequently its growth has been exceedingly rapid. It began as a very small ulcer, which was irritable and troublesome; and latterly he has suffered from severe lancinating pains through the tongue and below the lower jaw. The teeth corresponding to the ulcer are smooth and even, and could not possibly have abraded the edge of the tongue. He has been a smoker for many years, always using a clay pipe, and sometimes was conscious of a slight scorched feeling of the tongue after smoking heavily. His family history gives no sign of cancerous taint: his father died at an advanced age, he thinks of some pulmonary complaint, and his mother is still living and well: he knows of no instance of cancer of any kind amongst his other relatives. The sublingual and submaxillary glands are quite unaffected.

On Tuesday, the 16th February, Dr. Fenwick, assisted by Dr. George. W. Campbell, Professor of Surgery, McGill University, proceeded to the operation of ablation of the entire organ in the following manner: The tongue was first transfixed by a strong double hempen ligature, and the ends taken charge of by the assistant. The incision was made in the mesian line below the jaw, the curved needle thrust into the mouth midway between the symphysis and hyoid bone, and the chain of the *écraseur* drawn through; this was then pressed well back by Dr. Campbell (the tongue being at the same time drawn forcibly forward). The instrument was fixed, and tightening immediately begun. The time was taken by Dr. Howard, and 30 seconds allowed to elapse between each *click* of the handle. At the end of 20 minutes it was found that the division was complete, and the tongue was gently drawn from the mouth by Dr. Campbell by means of the cord attached to it, and the operation was finished.

During the whole proceeding the patient was completely anæsthetized, the influence having been first established by chloroform and then continued by ether, the latter having been preferred on account of his age and rather debilitated condition.

The bleeding was extremely trifling, calling for no interference whatever.

He was put to bed, and ordered to have small pieces of ice in the mouth from time to time. At 9 P. M., his pulse was 87; no bleeding; no pain; could swallow a little milk and a few spoonfuls of beef tea.

17th February.—Slept several hours during the night; cheerful; pulse 85; swallows fluids with very little difficulty.

18th February.—Doing well; floor of mouth covered with a yellowish slough;

ordered lotion acidi carbolici (1 part to 30 parts of water) to be used frequently to rinse the mouth. Articulates even now some words without much apparent difficulty.

He recovered without a bad symptom, the wound granulated rapidly, and he was discharged well (to all appearances) on the 20th March, 1869.

No more was seen of the patient until he returned to the out-room of the hospital complaining of a small lump in his neck. This was in the first week of July. The disease had returned in the glands of the neck, 4½ months after the operation. Since that time until closing this report, 21st August, 1869, the disease had progressed with its usual rapidity, and now the whole of the left side of the neck is involved in an enormous cancerous mass, which will of course prove very shortly fatal, as his general health has already suffered very considerably.

This is the second case of excision of the tongue which Dr. Fenwick has performed, and the operation in each case was a modification of that described by Mr. Nunneley, of Leeds.

Dr. Fenwick draws attention to the fact, that in both cases the loss of blood was very trifling, although the whole organ was removed, or as much of it as was possible to include in the chain of the *écraseur* without injury to the epiglottis.

With regard to the advantages of the operation, the author looks upon it as not only justifiable but desirable, as it removes from the sufferer a foul ulcerated sore, which is a source of great misery from its situation, and must, to a certain extent, act injuriously on the patient's general health, interfering greatly with his digestive organs, as no particle of food can be taken without some portion of the discharge from the sore passing with it into the stomach.

Art. 172.—*Exophthalmic Goitre.*

By W. B. Cheadle, M.D.

(*The Lancet*, June 19.)

An important contribution to the clinical history of exophthalmic goitre, a disease which has recently been brought prominently before the notice of several societies, was made to the Harveian Society by Dr. W. B. Cheadle, at a late meeting. Dr. Cheadle has met with eight cases of this disease during the last eighteen months, and of these six exhibited its three leading features—viz., palpitation, enlargement of the thyroid, and prominence of the eyeballs, in a marked degree. In the two remaining cases, one of three great symptoms was absent; in one there was no goitre, and in the other no exophthalmus. Seven of the cases occurred in females, and one only in a male. In the latter no cause could be discovered on most careful and repeated inquiry which would account for the attack. Of the seven cases occurring in females, four were associated with disordered menstruation, one with the advent of puberty, and one with the final cessation of the catamenia. Five of the women were anæmic, although not in any extreme degree; but the remaining two, and the man, were full-blooded and robust. In every case palpitation was the first, or one of the first symptoms noticed, and the action of the heart always rapid and forcible. The pulse was generally full and jerking, and ranged between 84 and 144, being, however, rarely found in any instance below 100, although showing great fluctuations between the limits. The temperature had been carefully registered in most of the cases, and found to be generally above the normal—in one case as high as 101°—showing, however, like the pulse, considerable variation. In one case, which had been under observation for above a year, although recovery had appeared to be almost complete for some months, the pulse remained above 100, and the temperature about 99°. Observations were made to determine whether any difference existed between the temperature of the cheek and that of the axilla, or between the two cheeks, with the view of obtaining evidence respecting any affection of the cervical sympathetic. The results showed a general difference of half a degree in favor of the axilla, and corresponded with those obtained from persons in perfect health. In one case, however, the

temperature of the cheeks was found to be two degrees lower than that of the axilla. This was observed twice only, the temperature having the normal relations as in the others on all other occasions. In no instance was any material difference between the two sides of the body discovered, either in the cheeks or axilla. The pupils were found to be somewhat dilated, but responded readily to light and atropine, except in one instance, where there had been severe inflammation of both eyes. The impulse of the heat was always increased, and accompanied by arterial throbbing. In no case could hypertrophy or distinct organic disease be made out.

Amongst other symptoms observed in the majority of cases, were irritability of temper, great nervous excitability, flushing of the face, and increased palpitation on the smallest excitement or exercise, epistaxis or diarrhœa, and profuse perspirations. In the case of the man, all the three principal symptons were strongly marked, and the pressure of the goitre produced grave dyspnœa. The circumference of the neck measured 17½ inches. Iodine and glycerine were applied under oiled silk, and ten-minum doses of the tincture of iodine given internally. The goitre rapidly decreased in size, all the symptoms abated, and the neck was eventually reduced to a circumference of 13¾ inches. The iodine was given internally for nine months, with short intermissions only from non-attendance, without producing any increased palpitation or other ill effect. A second case, in which the goitre was large, and the other symptoms severe, was treated in the same manner with equal success. In one case only out of six in which the iodine was given continuously for many weeks, it was deemed necessary to discontinue its use on account of increased palpitation following the administration of fifteen-minum doses.

In considering the bearing of the evidence afforded by these cases upon the nature of the disease, the author observed that increased action of the heart was not only an invariable symptom, but also one of the earliest in point of time, as in the cases related. If the sequence were real, the congestion or hypertrophy of the orbital cushions and thyroid might be explained as a result of hyperæmia from increased cardiac and arterial action. But the case of injury in the cervical sympathetic lately brought before the Medico-Chirurgical Society by Dr. W. Ogle seemed to show that mere hyperæmia was not sufficient. There must be something in addition, a nerve stimulus which at the same time sets the heart going at such an unwonted pace. The excessive cardiac action being viewed as the key to the series of phenomena, it was necessary to go a step further back, and seek the nerve source of this.

The author considered the morbid changes found in the cervical sympathetic on post-mortem examination, in a number of cases during the last few years, quite inadequate to explain all the phenomena observed. If the cervical portion of the ganglionic system were alone affected, it was, *primâ facie*, improbable that both chains should be implicated at the outset in every case. These chains had been shown by experiment to have singularly independent action; and yet, in the cases observed, no difference of temperature between the sides, such as lesion of one chain would produce, could be detected. Nor was there any disparity between the cheek and axilla, except casually in one case; showing that the morbid condition, whatever it might be, was not limited to one chain of ganglia only, or to the cervical portion only.

The symptoms of exophthalmic goitre corresponded partly to paralysis, and partly to irritation of the sympathetic. The increased heat and arterial action were consistent with the former, the cardiac excitement, the exophthalmus, and the dilatation of the pupil with the latter. Symptoms indicative of such opposite conditions were difficult to reconcile; but they appeared to show that the sympathetic system was in some way or other largely implicated.

The rapid, jerking pulse, persistent palpitation without organic disease of the heart, or acute disease, to account for it, and perhaps increased temperature, were suggested as valuable aids towards the diagnosis of the complaint in its early stages; and some sphygmographic tracings were exhibited, illustrative of the difference of the pulse in this disease and in simple anæmia.

Art. 173.—*On Removal of Laryngeal Polypi.*

By Dr. Krishaber.

(*Gazette Hebdomadaire*, No. 34.)

In this contribution is reported an interesting case of successful removal of a polypoid tumor from the ventricle of the larynx after division of the thyroid cartilage. Dr. Krishaber gives the following conclusions at the end of the article:—

1. There are cases of polypi of the larynx in which the growths cannot be destroyed and extirpated whilst the natural passages are intact. In these cases the larynx may be directly opened, and complete cicatrization and cure of the patient be thus obtained.

2. The kind of operative proceeding will depend on the tumor and its structure. The opening into the larynx may be made either through the laryngeal membranes or through one of its cartilages.

3. In cases where the polypus is implanted in the ventricle of Morgagni, the section should be made through the thyroid cartilage. The amount of separation is sufficient for the extraction of even a large polypus without section of the thyro-hyoid and crico-thyroid membranes. The section of the cartilage may be made without interfering with the vocal cords, and the voice then remains intact. Ossification of the cartilage is not a contra-indication, although this condition retards cicatrization.

4. Laryngotomy, which consists in a section *en masse* of the whole body of the larynx, its membranes and cartilages, such as has been performed a certain number of times, ought to be rejected from practice.

5. When by means of the laryngoscope the exact seat of the tumor has been made out, it suffices to cut into the larynx over this exact spot.

6. Of all the proceedings hitherto employed for the extraction of polypi, Dr. Krishaber's operation is that in which the laryngeal incision is the least extensive.

Art. 174.—*Wound of the Larynx; Laryngeal Suture; Healing by First Intention.*[1]

By M. Prestat.

(*Gazette Hebdomadaire*, No. 33.)

Some eight years since M. Prestat was called to a farmer who had just cut his throat. This man, aged thirty years, was a victim to attacks of hypochondria, in one of which he made on the front of the neck a large and deep wound, with one stroke of a razor, and caused profuse hemorrhage. One hour and a half after the attempt at suicide the patient was found in the following condition:—

The face was pallid and anxious, the pulse feeble. A large transverse wound extended from one sterno-mastoid muscle to the other, and exposed the interior of the larynx, the whole breadth of which was divided at the superior third of the thyroid cartilage. The razor had passed immediately above the superior vocal cords without wounding them, the glottis was left intact. The posterior wall of the larynx also remained untouched. On raising the man's head, air passed through the wound, and there was no voice. By depressing the head, the two lips of the laryngeal wound could be exactly approximated, respiration was carried on, and the voice restored, only the timbre remained very low. On the left side of the cutaneous wound the superior thyroid artery, completely isolated, could be seen pulsating along an extent of two or three centimetres.

M. Prestat undertook to approximate as exactly as possible the two margins of the laryngeal wound. As the thyroid cartilage was not ossified, it was

---

[1] Communicated to the Société Impériale de Chirurgie, June 10.

decided to apply a suture. A needle carrying a double thread was passed from without inwards at first through the cartilage on the left side about a demi-centimetre below the wound, and carried into the wound between the cartilage and the laryngeal mucous membrane; then the same needle was passed from within outwards through the superior fragment of the cartilage without wounding the mucous membrane. A double thread was applied in the same manner to the right side of the wound. The two lips of the wound could be readily brought together, and the sutures tied. As there was fear of ulceration of the thyroid artery, two ligatures were applied, and the vessel divided.

At the end of a quarter of an hour, as the respiration was performed regularly, and there had been no cough, and as air did not pass through the wound, the cutaneous wound was closed by fixed points of interrupted suture. The head was kept in a position of forward flexion. At the end of some hours the patient was visited: respiration continued to be easy; there had been no emphysema; and deglutition was well performed. On the following day the patient could speak without pain, but his voice was low; the reunion of the cutaneous wound became almost complete. The patient partook of fluid nutriment. On the tenth day the left suture thread was removed from the larynx; and on the sixteenth day the other was detached. At the end of three weeks the patient was completely cured, with the exception of a fistulous point, which corresponded to the passage of the right laryngeal suture. On the thirty-third day a small osseous ring passed away from this fistula which cicatrized immediately afterwards. The voice was preserved with a diminution in its timbre, and there was no tendency to coughing.

The sharpness of the section of the larynx, and the close coaptation which was a consequence of this, were very favorable to the employment of the suture. Any contused wound with dentated margins would, from the swelling and inflammation of the mucous membrane it occasions, be a contra-indication to this kind of treatment. The laxity of the submucous tissues allowed M. Prestat to pass the needles without wounding the mucous membrane. By producing immediate reunion of the wound, the suture of the cartilage guarded the patient from those symptoms which might have induced suppuration of the wound, contraction and obliteration of the larynx; the voice has been well maintained.

Notwithstanding all these advantages, the suture of the superficial part of the wound has been strongly controverted, and for a long time has been rejected by the majority of surgeons. In M. Prestat's case this treatment gave a very good result, and the exact adaptation of the two parts of the larynx having sheltered the patient from emphysema, M. Prestat found great advantages in the suppression of the suppuration of this wound. I think that this fact is such as to encourage the surgeon to have recourse in like cases to suture of the laryngeal cartilages, and even to attempt that of the soft parts, provided that in the latter case the sutures be divided whenever emphysema commences to manifest itself.

ART. 175.—*A Case of Epithelioma of the Œsophagus, in which Gastrotomy was performed. With Remarks.*

By ARTHUR E. DURHAM, F.R.C.S., Assistant-Surgeon, Guy's Hospital.

(*Guy's Hospital Reports*, vol. xiv.; and *British and Foreign Medico-Chir. Review*, October.)

Although this was an unsuccessful case, Mr. Durham thinks it right to publish it, and he considers the performance of the operation was quite justifiable. The patient was an old man, who was troubled with continual vomiting, and inability to swallow liquid food. The stomach was opened, and made to communicate with the external air, and milk and water was introduced by means of an elastic tube. He soon died, however, and the obstruction was found, as was anticipated, to be due to epithelioma of the œsophagus, and accompanying constriction of the tube. Mr. Durham considers it doubtful whether life has

ever been prolonged by this operation, but still he thinks it ought to be performed. It has always hitherto been performed too late, as in the case recorded; but if it were done earlier, and the patient were brought in a favorable condition, it might be the means of lessening suffering, and of lengthening life, even if it did not permanently remove, or cure, the disease.

ART. 176.—*A Case in which a Live Fish found its way into the Œsophagus, and was Impacted for about Sixteen Hours.*

By W. STEWART, M.D., Surgeon 2d Batt. 21st Fusiliers.

(*The Lancet*, September 25.)

Dr. Stewart is induced to record the following case, interesting from its rarity, inasmuch as the foreign body was alive when the accident happened, and probably remained so long afterwards, while imprisoned in the œsophagus.

On the morning of the 8th of May, 1869, a native puckally of the regiment, named Chengamully, was brought to the hospital of the 2d batt. 21st Fusiliers, in a state of great distress—suffering from intense pain low down in the œsophagus. There was much difficulty in breathing, and the patient was unable to swallow liquids or solids. He assumed a posture leaning forward, as the attempt to stand erect caused more distress. The patient stated, as also the friends who accompanied him, that on the previous evening, while fishing at "The Lake," he caught a fish, which proved unusually lively, and in order to extract the hook from its gills, he seized the fish with the fingers of the left hand, and the hook with his right, and, with the head of the fish between his teeth, effected his object. He had scarcely done so, however, when the animal, with its long, sharp, dorsal fin, pricked the palm of his hand, causing him suddenly to let go his hold, and involuntarily to open his mouth at the same time, when the fish bolted down his throat; and although he grasped it by the tail in its descent, and squeezed his pharynx with the other hand, all his efforts were ineffectual; the fish made its way to the position above described.

A live specimen of the kind of fish impacted had been brought to the hospital by the man's friends for inspection. It was about the same size, and caught the same evening. It appeared to be identical with the *Anabas scandens* (the walking perch of Ceylon), called by the Hindustanees here the sooma. This fish is remarkable for its power of locomotion on dry land (making long marches by means of its pectoral fins), and for the length of time it can live out of water. It is said that the fishermen on the Ganges will keep these fish in earthenware vessels without water for four days, taking them out to cook when required, when they are as lively as when first taken. The specimen under observation had been out of the water all night, and, on being touched or irritated, was able to walk with some rapidity. The fish was in length about four to five inches, an inch thick at the shoulder, and in depth about one inch and a half, including dorsal fin, as sharp as a knife, standing up fully one-half inch. The attempt to extract the animal with forceps, if such had been at hand, would have failed, and in all probability would have caused serious injury, owing to the sharp dorsal fin, which, when erected to its full extent, inclines towards the tail of the animal; the pectoral fins also inclining in the same direction. It was, therefore, decided to use the probang, as the only alternative, and if possible push the animal into the stomach. Owing to the pain and spasm induced, a first attempt failed. On a second attempt the fish was dislodged, and I passed the probang fairly into the stomach, with but slight obstruction to the instrument. The patient shortly afterwards left the hospital, able to walk without the assistance of his friends, and relieved of all his distressing symptoms, and beyond some pain on deglutition for some days afterwards, has since experienced no inconvenience.

Art. 177.—*A Case of Stricture of the Œsophagus after Swallowing Caustic Potash.*

By Jonathan Hutchinson, F.R.C.S.

(*London Hospital Reports*, vol. iv.; and *British and Foreign Med.-Chir. Review*, July.)

The case recorded is that of a lady who drank, by accident, some fluid in a tumbler, and which, although resembling porter in color, was, in fact, a substance consisting chiefly of caustic potash in a state of deliquescence, and used by distillers. The lady's husband also tasted some of the fluid, and, finding it to be very caustic, supposed it to be sulphuric acid; and the medical attendant who was called in being informed that sulphuric acid had been swallowed, administered magnesia and milk, of course without much benefit. The lady and her husband both suffered from soreness of the mouth and throat for some days afterwards, but in three weeks they were much better, and the husband entirely recovered, but in the lady the symptoms of a contracting stricture of the œsophagus were gradually developed. She was unable to swallow anything except the thinnest fluids, and only in very small quantities. Bougies were employed, and two strictures were encountered—the first being passed, but the other being impassable. When Mr. Hutchinson was called to see the patient, she appeared to be rapidly sinking, and could swallow nothing. He again tried bougies of various sizes, after the lady had been placed under the influence of chloroform; but although the upper stricture was easily passed, the lower one was impassable even by a No. 8 catheter. Under these circumstances, and under the impression that the patient would inevitably sink unless some decided steps were taken for her relief, Mr. Hutchinson proposed the operation of gastrotomy, to which proceeding assent was readily given, and the next day was fixed for its performance. Fortunately, however, the lady became so much better in the interval that the operation was delayed; and during the succeeding week she continued to improve in the capacity for swallowing, and took daily fair quantities of food. As time advanced, her condition still continued to improve, and, without any use of bougies, she took fluid nutriment perfectly well.

A year after the proposal of the operation, the lady was in better health than she had enjoyed for many years, although she still suffered from the stricture, and she could swallow solids only when carefully minced. She had also gained two stone in weight. Mr. Hutchinson candidly observes that this lady had a very narrow escape from a very dangerous operation, although he contends that its recommendation was fully warranted by the prevailing rules of surgery. He states that the case made so great an impression on his own mind that he cannot conceive any circumstances which could in future induce him to abandon the bougie and resort to gastrotomy. He also takes occasion to observe that there are several other surgical procedures of a very dangerous nature which are sometimes resorted to with fatal consequences, and which might advantageously be omitted, not only without danger to the patient, but probably to his great advantage, and the saving of life.

Art. 178.—*Treatment of Torticollis, or Wry-neck.*

By Bernard E. Brodhurst, F.R.C.S., Lecturer on Orthopædic Surgery at the Hospital.

(*The Lancet*, June 19.)

When discovered and treated at an early period, the author writes, mechanical means may be sufficient to overcome such distortion as is occasioned by slight muscular retraction. It is, however, rare that extension can be so effectively and continuously employed as to overcome and remove even slight deformity which depends on muscular retraction. And, rather than lose much

time in futile attempts at extension, it is preferable to proceed to the subcutaneous section of the tendons of the retracted muscles; it is sometimes alone necessary to divide the clavicular insertion. Sometimes the sternal attachment of the muscle alone requires division. For the most part, however, both the sternal and the clavicular insertions of the muscle should be divided.

When it is required to divide both the sternal and the clavicular portions of the muscle, separate punctures should be made, so that the blade of the knife may be kept closely in contact with each portion of tendon. The punctures may be made most conveniently about one inch above the clavicle, and the knife being carried well behind each portion of the tendon in succession, the tendon will be divided on turning the edge of the knife towards it, and using it with a cutting motion, at the same time that the head is so held as to make the muscle tense. It is seldom necessary to divide other structures than the two portions of the muscle now indicated, except it be, perhaps, a band or two of fascia; for other contracted structures will probably yield to mechanical extension after the greater obstruction caused by the retracted sterno-mastoid mucsle has thus been removed.

After the operation, the head is to be supported in such a manner that the chin inclines towards the breast; so that the little wounds may readily heal, and reunion of the divided tendon may take place. Then, on the fourth or fifth day, extension, with a suitable instrument may commence, and be carried on gradually, until the head is raised into its normal position; and, indeed, extension should proceed so far that power may be obtained to move the chin equally to one side or the other.

So soon as the position of the head is restored, care must be taken to remove the spinal curves.

(B) CONCERNING THE TRUNK.

ART. 179.—*Case of Hydatid Tumor of the Abdomen Simulating Ovarian Disease, treated successfully by operation; with Remarks.*

By THOMAS BRYANT, F.R.C.S.

(*Guy's Hospital Reports*, vol. xiv.)

The subject of this case was a lady aged thirty-five, married, but without family, and the tumor was as yet thought to be ovarian, but on careful examination being made with a view to operation a suspicion was raised that it might be of a hydatid nature. An incision was therefore made about two inches long in the median line of the abdomen, midway between the umbilicus and pubes, and a large hydatid cyst was eventually opened, and the contents discharged.

ART. 180.—*A Case of Ovariotomy in a Child; with Remarks.*

By THOMAS BRYANT, F.R.C.S., Assistant-Surgeon, Guy's Hospital.

(*Guy's Hospital Reports*, vol. xiv.; and *British and Foreign Med.-Chir. Review*, October.)

The patient was a girl, aged fourteen, who had never menstruated, and the operation was quite successful. Mr. Bryant is not aware of any other instance of a similar kind having been recorded in which the disease was developed to such an extent in so young a subject, and before the ovaries had commenced their active life; and the character of the tumor was another point worthy of remark, for it was more like the chronic ovarian tumor found in the middle-aged than any of the acute kind. The rapid recovery of the patient was also remarkable, for the convalescence was steady from the first, and was marked by an almost entire absence of pain.

ART. 181.—*Cases Illustrating the Treatment of Suppurating Ovarian Cysts, and some points connected with Ovariotomy.*

By THOMAS BRYANT, F.R.C.S.

(*Guy's Hospital Reports*, vol. xiv.; and *British and Foreign Med.-Chir. Review*, October.)

Two cases are here recorded of disease in which the cysts suppurated, the pus was discharged, and the patients did well. In one case ovariotomy was not performed, or even contemplated, but free incisions were made for the escape of the matter; in the other case, ovariotomy was attempted (though not by Mr. Bryant), but abandoned after the first incisions. The effect of the operation, however, was to discharge a large quantity of fluid, and the patient unexpectedly recovered. The result of both cases proves that much may be done even for patients who are sinking from the irritation of a suppurating and degenerating ovarian cyst, the best plan being to lay open the cyst, evacuate its contents, and wash out the cavity. Mr. Bryant records two other cases, one of which relates to the treatment of the peduncle in ovariotomy, and the other is an instance of menstruation from the peduncle of an ovarian tumor. With reference to the treatment of the peduncle of ovariotomy, Mr. Bryant thinks that the practice of dropping into the peritoneal cavity the end of the divided peduncle with the ligatures cut off close, is not free from special risks, and that some simpler or better plan for treating the peduncle should be sought for, although he is not yet prepared to decide what that plan may be.

ART. 182.—*On Treatment of the Pedicle after Ovariotomy.*

By C. F. MAUNDER, Surgeon to the London Hospital, and to the Ward for Ovariotomy in Queen Adelaide's Dispensary.

(*Medical Times and Gazette*, October 9.)

The chief point to be considered in dealing with the pedicle is the prevention of hemorrhage, and, in so dealing, to use the means the most simple, provided only it be effectual. The most simple means is that which taxes the power of repairing an injury in the least degree; and if a surgeon had courage he might resort to *torsion*, retaining or not the cut pedicle at the wound. There is this objection to torsion, that when the patient rallies from the depressing effect of the operation some vessel or vessels previously unobserved may bleed. A similar objection applies to sealing the end of the pedicle with the hot iron and dropping it back into the pelvis; the eschar may become detached, and fatal hemorrhage ensue.

Mr. Maunder is thus left to choose between securing the pedicle with a ligature and dropping it back into the abdomen, or retaining it at the wound secured by clamp or ligature. In the first instance a foreign body is left in the abdomen, and this contrary to general principles, and possibly a source of fatal irritation; while in the latter case the stump is repaired outside the belly, and probably with the least risk to the patient.

While, then, Mr. Maunder advocates, as a rule of practice, keeping the pedicle outside the belly, exceptions will occasionally arise. But, as in every other instance in which an operation is contemplated, our great aim should be to endeavor to discover those signs and symptoms which may lead us to predict a favorable or an unfavorable result, Mr. Maunder believes any special way of treating the ovarian pedicle, beyond the object of preventing hemorrhage, to be a matter of comparatively little moment, and that it will not affect the rate of mortality to a noticeable degree. At present the secret either of success or of death seems to lie in the general condition of the patient.

ART. 183.—*A Case of Multilocular Cyst of the Left Ovary Complicated by Ascites, Umbilical Hernia, and Prolapse of the Uterus; Ovariotomy; Recovery.*[1]

By M. BOINET.

(*Gazette Hebdomadaire*, No. 48, 1868.)

The subject of this case was forty-seven years of age, and had menstruated regularly up to the age of forty-six years. She had had general good health. Four years previously before the operation, which was performed by M. Boinet on October 11, 1868, her abdomen commenced to swell; on September 7, 1865, she was punctured, and exit was given to between six and seven litres of fluid. The fluid, however, was rapidly reproduced, and the patient reached Paris on July 6, 1868, in a deplorable condition, being feeble, emaciated, and with respiration much impeded. The abdomen, at the level of the umbilicus, which was the seat of a large hernia, measured 142 centimetres in circumference; and from the xyphoid appendage to the pubis, 45 centimetres. The umbilical hernia, which contained ascitic fluid and loops of intestine was very voluminous, measuring 40 centimetres in circumference. The abdominal walls and the lower limbs were infiltrated. The abdomen contained much ascitic fluid. In the abdominal cavity could be made out two superior solid tumors, and a median inferior tumor which seemed to be a sac containing fluid. Finally, there was complete prolapse of the uterus. The only chance of recovery was in ovariotomy, but the probable existence of adhesions, and the numerous complications accompanying the cyst of the ovary, seemed to present contra-indications. The operation was finally decided upon at the urgent request of the patient.

The patient having been placed under the influence of chloroform, an incision about 12 centimetres in length was made through the linea alba down to the peritoneum. A puncture was then made, and exit given to between four and five litres of ascitic fluid. The divided vessels were then closed by serous fluid, and the peritoneum divided by scissors. M. Boinet then introduced his hand into the abdominal cavity, and found that there were two solid tumors and a cyst filled with fluid. The solid tumors being very large, the incision was carried upwards, and enlarged to the extent of 27 centimetres; the knife was carried to the left of the umbilical hernia. The cyst was then punctured, and from seven to eight litres of a greenish serous fluid removed. It was then made out that the whole mass was fixed merely by a very long and very thick pedicle. A clamp was then applied, above which the pedicle was cut through with scissors, the raw surface being touched with the actual cautery. In consequence of the considerable size of the vessels of the pedicle a strong ligature was applied below the clamp. Thanks to the serre-fines not a single drop of blood fell on the peritoneum. Several shreds of false membrane of a purely white color were found floating in the ascitic fluid. The surface of the peritoneum was of a dark red color, and the epiploic vessels were engorged with black blood. The pedicle was next tied at the inferior angle of the wound by a long needle, which was made to traverse both it and the margins of the abdominal wound; the clamp was then removed, and two needles, traversing the abdominal wall, were placed above and below the pedicle in order to compress it by a twisted suture. An evacuating tube was then left in the pelvis for 24 hours, in order to favor the discharge of a few grammes of a slightly sanguinolent fluid.

The results of the operation were most happy. The abdomen remained flat and free from tenderness. On the eighth day the pins and ligatures were removed and replaced by small bandages saturated with collodion. The patient ultimately recovered, and was relieved of the ovarian cyst, of the umbilical hernia, of the complete prolapse of the uterus, and of considerable ascites.

---

[1] Communicated to the Société Impériale de Chirurgie.

The removed mass, including the fluid contents, weighed between 17 and 18 kilogrammes. The two solid tumors contained in their interior numerous small cavities filled with gelatinous and purulent material, and not communicating with each other.

ART. 184.—*On Rupture of the Ureter.*

By ALFRED POLAND, F.R.C.S., Surgeon to Guy's Hospital.

(*Guy's Hospital Reports*, vol. xiv.; and *British and Foreign Med.-Chir. Review*, October.)

Rupture of the ureter is an injury of great rarity; but the late Mr. Stanley has recorded two cases of the kind in one of the volumes of the "Medico-Chirurgical Transactions," and Mr. Poland now publishes another, which presented, moreover some remarkable and unusual complications. The patient was a woman, aged twenty-three, who was in the fifth month of pregnancy, and who sustained a severe injury by a fall when getting out of a railway carriage. There was a wound above the umbilicus, the urine was not passed, there was a vomiting, premature labor came on, and terminated in the delivery of a still-born fœtus, and death resulted in 135 hours after the accident. The post-mortem examination showed that the external wound led into a hernial space in the subcutaneous tissue on the outside of the rectus muscle and its sheath, but in the sac were coils of small intestine. The spines of the lumbar vertebræ were broken off; two of the ribs were broken, and the transverse processes of the three upper lumbar vertebræ were also broken off. The right ureter was torn quite across, just below the pelvis of the kidney, and the left kidney had its vessels blocked up with ante-mortem clots. The rupture of the muscles was apparently caused by the extreme tension of the muscular fibres at the moment of the accident, and the rupture of the ureter by the rolling of the lady, when in an erect position, between the step of the railway carriage and the platform. The symptoms of the lesion were, as they must be in such cases, very obscure and unsatisfactory.

ART. 185.—*Stricture of the Urethra; Breaking of a Bougie in the Urethra; Perineal Section, and Median Operation as for Stone, with Extraction of Bougie from the Bladder.*

By ERSKINE MASON, M.D., Demonstrator of Anatomy in the College of Physicians and Surgeons, New York; Surgeon to the Charity Hospital, New York, &c.

(*American Journal of the Medical Sciences*, October.)

The following case appears worthy of publication, as illustrating an accident which occasionally occurs in operation about the urethra, and the readiness with which the greater portion of a bougie was removed through the median or Allarton's section for stone:—

E. C., aged fifty-two, laborer, was admitted into Charity Hospital, June 3d, 1869, suffering from stricture of the urethra. His history in brief was that of a traumatic stricture, resulting from an injury received in the perineum, five years ago, while in the army. For the past two years he states he has been able to void urine either by a very small stream or in drops only; the latter mode being the only way in which his bladder was relieved at time of admission. His physical condition was wretched, and he complained of an almost constant pain in the lumbar region, want of appetite, and frequent vomiting; which, together with extremely frequent calls to empty the bladder, were fast wearing him out. The urine, upon examination, revealed albumen, a few granular casts, triple phosphates, pus-corpuscles in abundance, together with cystic epithelium. After some days of general treatment the urethra, which before was so irritable that it was hardly possible to attempt the introduction of bougies, on account of the intense pain which they caused, abated in a measure, so that I was able to pass a filiform instrument through the stricture into the bladder. Thi

method of gradual dilatation was practised until the 21st of June, when I succeeded in passing a No. 3 bougie (French scale) through the stricture, which was situated in the subpubic curvature. Deeming the condition of the patient not such as to warrant the operation of perineal section, I proceeded to divide the stricture with Gouley's modification of Maisonneuve's urethrotome. The patient was accordingly etherized, and the instrument passed over the bougie as the guide. Just as the knife reached the stricture the bougie (which was of English make) was discovered to have broken. This accident was due either to some flaw in the manufacture of the bougie (which was a new one), or else it had been cut with the knife—which of the two, from an examination of the ruptured bougie, I am unable to state positively, though inclined to the belief that the bougie in some manner became bent in front of the stricture, and was thus divided by the blade of the instrument. Upon removing the anterior portion of the bougie the disagreeable fact became manifest that nearly eight inches of the bougie remained behind, either in the urethra, bladder, or both. I at once passed down the urethra a long thin pair of forceps, with the hope that, perchance, the end of the bougie might be seized, and in this way removed, but without success. Perineal section was accordingly performed, and the stricture, which involved not only the bulbous, but a portion of the membranous urethra, was freely divided. No sign of the bougie being discovered in the urethra, I introduced my little finger into the wound in the perineum, and proceeded, as in the median operation, to dilate the urethra and enter the bladder. This being accomplished with the greatest ease, I was pleased to feel the bougie, which was lying crosswise in a thickened and contracted bladder. Seizing it with my little finger in this position was an easy matter, and the bougie was readily withdrawn. The case was treated in the same manner as is usual in cases of section in this hospital, no instrument being left in the bladder, but a full-sized catheter introduced once or twice a day, as the case may be, to draw off the urine. No unpleasant symptom occurred to retard a speedy recovery from the operation, and relief from all his previous symptoms. The following note of the case I transcribe from the hospital records:—

"July 8. He complains of pain in the epigastrium, where there can be seen a pulsation, marked dulness on percussion over a circumscribed space about two and a half inches in diameter. Auscultation reveals a murmur heard with maximum of intensity just to right of the median line. Diagnosis, aortic aneurism. July 20, was transferred to the medical wards. July 23. Patient left the hospital to-day, being unwilling to remain longer, having been relieved from the trouble for which he sought admission."

This case appears to go far towards showing the ease with which the median operation can be performed, and how well it is adapted for just such cases as this. There was no subsequent dribbling of urine, as there would have been had either the lateral or bilateral operation been performed; the patient was spared the dangers arising from the urine flowing over a wounded and inflamed prostate, not to refer to the danger in his condition from hemorrhage, he having perfect control over the bladder. Indeed, had any other operation been resorted to than the one adopted, Dr. Mason feels sure that the final result would have been less happy, both to the patient as well as to the operator. In this case the patient was suffering at the time of operation from prostatitis, the prostate being considerably enlarged, and extremely painful, upon examination through the rectum.

ART. 186.—*Case of Spina Bifida Successfully Treated by Ligature.*

By EDWARD SIDEBOTTOM, M.R.C.S. & L.R.C.P.

(*British Medical Journal*, September 25.)

Mr. Sidebottom was summoned on the 8th September, 1866, to attend a patient in her third confinement, who, after a long and tedious labor, was delivered of a fine, full-grown male child, about the usual size and weight, apparently healthy and strong. It was soon discovered that the infant was suffering from bifid spine in the lumbar region, the tumor being about the size of an orange, tense, fluctuating, and of a pale-purple color.

Mr. Sidebottom made known to the parents the danger attending such cases

and suggested that he might have resort to some operation for the removal of the tumor, or try ligature. Two days after its birth he placed a ligature of silk thread round the neck of the tumor, tightening the ligature only slightly. The following day he passed another (also of silk thread) without removing the first. This appeared to produce a good deal of irritation, causing several clonic convulsive attacks for several hours during the day, but which passed off in the evening. The next day he passed a third ligature (silk thread), not disturbing the two former ones, and using more constriction—still without causing more convulsions, but leaving the child fretful. The three ligatures were all kept on until the tumor sloughed off, which did not happen for three weeks, leaving only a very small wound, over which Mr. Sidebottom applied a piece of dry lint, using gentle pressure. In three days the wound had perfectly healed, leaving the child's lower extremities partially paralyzed. After a few days cold water was applied by means of a sponge along the whole course of the spine, daily, with marked benefit, the paralysis disappearing by the end of three months.

ART. 187.—*On Splenic Tumors.*

By C. HILTON FAGGE, M.D., M.R.C.P.

(*Guy's Hospital Reports*, vol. xiv.; and *British and Foreign Med.-Chir. Review*, October.)

In this interesting paper Dr. Fagge describes several cases of enlarged spleen, where the tumor not only occupied the left side, but extended into the iliac and hypogastric regions. In some instances the swelling nearly filled the whole abdomen. The chief clinical interest in these tumors, and that to which Dr. Fagge was the first to direct attention, was in reference to the possibility of mistaking an enlarged spleen for an ovarian tumor. The sharp outline presented by the tumor, and the notch or notches in it, ought at once to suggest that it is the spleen; and if any doubt should remain, it may at once be dispelled by a microscopic examination of the blood; for a considerable enlargement of the spleen never occurs without an increase in the white corpuscles.

ART. 188.—*Fusiform and Tubular Aneurism of the Subclavian Artery, and its Treatment by Compression.*[1]

By ALFRED POLAND, F.R.C.S., Surgeon to Guy's Hospital.

(*Medical Times and Gazette*, August 28.)

The main object of this communication was to offer some remarks upon subclavian aneurism and wounds and lesions of the subclavian artery, as suggested by an interesting case coming under the author's notice and care at Guy's Hospital. The patient was a man, aged forty-four, a bricklayer's laborer, who was admitted into Guy's Hospital on October 7th, 1868. He had formerly been employed in the gas works, and latterly had been in the habit of carrying a hod of bricks upon his shoulder. For the last two years he had suffered from occasional pain in the right arm, which gradually increased. He attributed this to an injury to the fingers which he had received about that time. During the last month the pain had become so severe that he was forced to give up work. On applying for advice to Dr. David Johnson, of the Old Kent-road, there was discovered for the first time a pulsating tumor above the right clavicle. It was considered to be aneurismal, and the patient was recommended to apply for admission into the Hospital. The patient, on admission, appeared to be fairly nourished, although naturally thin, and his general health was good. His expression was somewhat anxious. In the supra-clavicular region of the right

[1] Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, held June 8.

side there was a pulsating tumor, fusiform in shape, passing downwards and outwards, and meeting the clavicle at an angle of forty-five degrees. It was more than one inch in length, and nearly half an inch in breadth at the widest part, and was very much like a large filbert. Above, it diminished gradually to the size of a large goose-quill, and after remaining for a quarter of an inch of that size it seemed to curve downwards and inwards, becoming lost under the muscles. The lower or distal end did not seem to diminish so rapidly, and the pulsations of the artery could be felt between the tumor and the clavicle, as also very distinctly below that bone. The tumor was almost subcutaneous, and the pulsations in it very strong; and the expansion, which was uniform, was considerable during each beat. By pressure on the artery above the tumor, the pulsation in the latter was readily stopped, and the swelling became quite soft and flaccid, and easily emptied, so that it almost entirely disappeared. No pulsation could be felt in the radial or ulnar arteries, nor in any artery of the right arm as far up as the axillary to within a short distance below the clavicle. There was no other tumor or swelling in any part of the course of the vessels, and the axilla was quite free from any induration or globular enlargement. The right arm was weak, but he could perform easy motion with it. The circumference of the limb, both over the biceps and in the forearm, was less than that of the opposite side. There was also evidence of deficient nutrition in the nails of the fingers of the right hand, which were ill-developed and desquamating. He complained of pain down the radial border of the forearm and in the index finger, and occasionally this pain extended upwards to the acromial process. There was numbness in the fingers and hand generally, but there did not seem to be any impairment of actual sensation. The arm was always cold, and had to be wrapped up in flannels. There was no œdema, and no obstruction in the venous system. It was found that in consequence of the high position of the first rib in the neck, and the comparatively superficial abnormal course of the artery, pressure on the vessel could be made without trouble and without causing pain. Consequently it was agreed to make digital pressure on the cardiac side of the tumor, in the hope of effecting a cure. This was accordingly carried out almost uninterruptedly for ninety-six hours, and then discontinued, in consequence of the discoloration and tenderness of the skin at the site of pressure, and unwillingness on the part of the patient to undergo any further treatment. The tumor, however, had become undoubtedly much smaller and harder, but still pulsated, although the pulsation could be controlled by the merest pressure. The man left the hospital, and in the course of a month showed himself again, when the tumor had lost all pulsation, had become hard and somewhat smaller. This patient attended at Dr. Johnson's residence regularly for several months, and was carefully watched by him. The tumor gradually disappeared, and the whole trunk of the artery seemed converted into a fibrous cord; but there could be traced a very large artery running transversely across the posterior triangle of the neck immediately above the site of the former tumor. It seemed to emerge from under the sterno-mastoid muscle, and was lost under the trapezius. The author drew attention to the following conditions, and these were illustrated by references to cases and quotations from well-known writers on aneurism: 1. The remarkable deviation from the normal course of the right subclavian artery in the third part of its course; 2. The peculiar character of the aneurism, as being of the fusiform or tubular variety of aneurism, by dilatation, and where all the coats are uniformly distended; 3. The treatment adopted, viz., indirect digital compression on the cardiac side of the aneurism, leading to a successful issue. The paper is accompanied with the details of three unpublished cases of subclavian aneurism. 1. A case of subclavian aneurism cured by direct pressure, by Mr. F. M. Corner, Surgeon to the Poplar Hospital; 2. Notes of a case of subclavial aneurism for which amputation of the shoulder-joint was performed with success, by Professor Spence, of Edinburgh; 3. A case of aneurism by dilatation of the subclavian artery, by Dr. Robert Adams, of Dublin, with some further notes on Mr. O'Reilly's case of ligature of the subclavian artery for subclavian aneurism. The paper concludes with an elaborate statistical analysis of 116 cases of subclavian aneurism, of which the following table gives a general summary of the cases. These

are arranged according to the treatment pursued. The cases are placed under one heading only, viz., under the treatment last adopted, although many of them had previously been subjected to one of the other forms.

Summary of Cases according to Treatment.

	Successful.	Died.	Total.
Cases in which no particular treatment was adopted, and specimens undescribed, and not having been the subject of any operation.	3 cases 4 unknown	24 deaths 5 specimens	36
Medical and Valsalva treatment	7	4	11
Hypodermic injection	1 relieved	...	1
Compression	4	...	4
Injection into sac	1	2	3
Acupressure	...	1	1
Manipulation	2	2	4
Galvano-puncture	1	...	1
Attempt at operation	1	6	7
Ligature of third portion of subclavian	6	10	16
Ligature of first portion	...	9	9
Ligature of carotid	...	1	1
Ligature of innominate	...	12	12
Ligature of innominate, and carotid, and vertebral	1	...	1
Ligature of first portion of subclavian and carotid	...	2	2
Ligature of subclavian, carotid, and vertebral	...	1	1
Distal or Brasdor's operation, ligature of axillary	...	4	4
Amputation at shoulder-joint	1	...	1
Total	33	83	116

ART. 189.—*On the Differential Diagnosis of Abdominal Aneurism.*

By W. MOORE, M.D.

(*Dublin Quarterly Journal*, August.)

Dr. W. Moore relates a case of abdominal aneurism, of which the following are the leading points: J. L——, admitted into Sir P. Dunn's Hospital on December 31st, 1868, complained of pain in the back. Three years before had fallen into the hold of a ship, and shortly after the pain in the back commenced. On admission he was pale and spanæmic, but his general health was good; sight, speech, and hearing unimpaired, but the voice was low and subdued; respiration regular, temperature normal, urine healthy. His one complaint was of severe pain about the last dorsal vertebræ, which at times radiated under the floating ribs on the left side. A pulsation, eccentric, equable, and persistent in all positions was visible in the epigastrium; over its seat there was dulness on percussion, and a systolic bruit, only audible, however, when the patient was in a recumbent position. The pulsation in the iliacs was feeble, but equal; there was increased cardiac dulness, and a peculiar diastolic click supplanted the second sound. Visible pulsation in the radials. There was no appreciable dulness or visible pulsation along the spine. "On examining him with the stethoscope from the nape of the neck downwards, no abnormal sounds could be heard until we came down to the *last dorsal vertebra, when a well-marked bruit became audible* (particularly to the left of the spine), which became louder as we descended for about two inches, when it 'shaded off,' and was lost about the fourth lumbar vertebra." The area of the bruit was about five inches. The patient died suddenly. At the post-mortem the heart was hypertrophied, but the valves perfect. There was atheromatous deposit in, but no dilatation of, the thoracic aorta. Immediately opposite the giving off of the cœliac axis, an aneurism was found, about the size of a small apple, fitting into the left vertebral hollow, and lying on the upper lumbar vertebræ, the bodies of which were eroded. The aorta was narrowed for about half an inch below the aneurism;

the right renal artery was obliterated, and the right kidney was diminished in size.

In reference to the epigastric pulsation, the author observed that too much stress is laid on the "expansive character" of the pulsation. He considers that "persistency and equability," after a careful examination in all positions, are the most characteristic features of abdominal aneurismal pulsation. With regard to stethoscopic signs, he notices that "systolic murmur can be heard over the aorta *in front* in cases where tumors overlie the vessel; this diminishes the value of the diagnostic sign. But if we place the patient in the *prone* position, and examine him along the spine, in the great majority of cases of aneurism a 'bruit' will be heard (as in the case detailed) along the spine, especially to the left side." In the case of an abdominal tumor, with the patient in the *prone* position, no such "bruit" will be heard, inasmuch as no pressure is exerted on the vessel from the tumor forward. Thus, in a "*localized bruit, heard along the course of the spine*," we have one, if not the most valuable, physical sign of abdominal aneurism we are as yet possessed of. In the case of aortic obstruction, where a bruit may be propagated along the spine, it will be heard *continuously* from the base of the heart along the aorta. *Continuity* would also be the characteristic of a spanæmic murmur. In the case of aneurism the *bruit* is localized. The author relates another case, in which temporary attacks of dry barking and spasmodic cough, dyspnœa, and aphonia, occurred in the course of abdominal aneurism, which had its seat high up between the pillars of the diaphragm. He had no opportunity of examining the patient with the stethoscope, and the post-mortem examination was imperfect; but he suggests that the thoracic symptoms were the result of pressure by the aneurism on the semilunar ganglia of the solar plexus, which would influence the larynx through the pneumogastric and recurrent laryngeal nerves.

Art. 190.—*On Wounds of the Heart and Pericardium.*

By Dr. George Fischer.

(*Archiv für klinische Chirurgie*, Bd. ix., hft. 3; *Archives Générales de Médecine*, No. 5.)

Dr. George Fischer has published, under the above title, a complete sketch of penetrating wounds of the chest, involving the heart and its membranes. Cases to the number of 452, collected from all quarters, serve as the basis of this very interesting article. Of these cases, 401 relate to wounds of the heart, and 51 to wounds of the pericardium. With regard to the etiological view, the author establishes the following division:—

Wounds from pointed instruments	44
Wounds from pointed and cutting instruments	260
Wounds from fire-arms	72
Injuries from crushing	7
Rupture of the heart	69

The author then takes, one by one, all the symptoms which may be met with after wounds of the heart.

The *external wound* presents nothing remarkable in its aspect, its form, or its direction: it may be bleeding or obliterated by a clot. Sometimes it permits a more or less free access of external air at the moment of inspiration; at other times the obliquity of the tract prevents the introduction of air. This latter condition favors the occurrence of emphysema. With consecutive pleurisy or pericarditis, the wound gives exit to sanguinolent serosity, the abundance of which varies according to the cases.

The *hemorrhage* varies very much, and naturally depends upon the size of the instrument which has produced the wound, and upon the nature of the parts injured. In some cases hemorrhage is rapidly fatal, although the wound may not be of any considerable extent. In other patients not the least flow of blood is observed, because either the wound is very small and very oblique, or the

fibres of the heart, in contracting, tend to approximate the margins of the orifice, and thus favor the formation of an obliterating clot. This clot may be ruptured at the end of a few days, and death be thus rapidly produced.

In one case, in which the aorta was found traversed by a pin, only a single small drop of blood was discovered on the chemise of the wounded person.

The blood in some cases is scarlet, in others red: its flow is either continuous, or isochronous with the beatings of the heart. Hæmoptysis is sometimes observed, and is then due to a wound of the lung.

Syncope is a frequent symptom in the wounds of the heart: it may occur at the moment of the wound, some seconds after the accident, or, again, not until the end of a few days. In eighty-seven cases in which the loss of consciousness was stated, syncope occurred thirty times at the moment of the accident, thirty-eight times after a few seconds, and nineteen times in the course of the subsequent treatment.

Pain.—What part is taken by the cardiac wound itself in the pain felt by the patient? Whilst Harvey, Ollenroth, and Bamberger maintain that the heart is quite insensible, Laypeyronie and Reiche affirm from observation that the tissue of the heart cannot be touched without giving rise to fearful pains. Fischer agrees with Boyer that the absence of pain is a diagnostic sign of great importance and value. According to Boyer's views, wounds of the heart are but slightly, if at all, painful, and the suffering complained of in a small number of cases at the time of the injury should be referred to a lesion of the pericardium.

Fever is generally merely consecutive, and is then rarely announced by rigors. A violent fever, accompanied by dyspnœa and oppression, and which does not come until after a few days, generally indicates secondary hemorrhage.

The *beatings of the heart* are reduced in force, and become more difficult to make out: this symptom is due either to the general condition of the patient or to effusion within the pericardium. Sometimes intermissions are observed. This immediate depression is generally succeeded, in the course of a varying period, by violent palpitations of the heart, which may last for a long time, in some instances for several years.

Auscultation and *percussion* of the cardiac region furnish the most varying results: the heart sounds are sometimes normal, often obscure and remote, and in a few cases entirely lost.

A *frémissement* analogous to that observed in cases of arterio-venous aneurism, is considered by Ferrus and Jobert as a constant and pathognomonic sign of wounds of the heart. Steifengand, Feine, and some other authors have described a peculiar whining sound,—*bruit de branlement*. Others speak of sawing, rasping, gurgling, and hydraulic sounds. It may be said, briefly, that every possible abnormal bruit has been heard after wounds of the heart; the most frequent of these being a *bruit de souffle* isochronous with the systole. Those bruits, according to Fischer, depend upon the following anatomical lesions: pericardiac effusions, vascular changes, and communication of the ventricles. They may be also produced when a foreign body remains in the heart, when fluid or air exists in the pericardium; or again they may occur under the influence of the anæmic condition into which the patient has been thrown by the loss of blood. There is no abnormal bruit which is pathognomonic of wounds of the heart; in some cases no morbid changes in the heart sounds can be made out.

The *pulse* is generally from the commencement small, frequent, irregular, and intermittent. Sometimes it presents on the two sides of the body differences which present after recovery.

The state of the *respiration* was mentioned in 70 cases only. In 7 it remained normal. The movements of breathing were generally painful; in many cases there was intense dyspnœa which threatened every minute the life of the patient. The causes of this dyspnœa are compression of the heart by effusion of blood into the pericardium and pleura; consecutive pericarditis, pleurisy, and pneumonia; mediastinal suppuration; pulmonary, præcordial, and pleural adhesions.

The expression of face, the præcordial anxiety, the cough, and the gastric disturbances vary, and present no interesting point for notice.

The nervous phenomena vary in their nature; delirium does not generally occur except at the approach of death. In some cases, however, it lasts for several days without being necessarily a serious prognostic. Hemorrhage from wounds of the heart is frequently followed by convulsions of the muscles of the eyeball, mouth, and jaw, either isolated or generalized, and constituting in the latter case a risus sardonicus. Convulsions of the thoracic and abdominal muscles have been likewise observed, and also paralyses both of movement and sensation. In some cases of partial paralysis clots were found in the principal arteries supplying the paralyzed limbs.

The various symptoms just enumerated do not present themselves with intensity at the moment of the injury, and a great number of patients have been able, after the wound, to proceed for a more or less considerable distance. When symptoms do not appear until after some days, one is justified in admitting that the wound has been converted secondarily into a penetrating one.

The intensity of the primary symptoms does not furnish any special prognostic indications. A certain number of patients die without having presented any marked symptom; others, on the contrary, fall immediately into a state of collapse; after this period has been favorably passed over, the patient has, according to Fischer, a great chance of recovery.

The principal complications of wounds of the heart are: pericarditis, carditis, pleurisy, empyema, pneumonia, bronchitis, hectic fever, erysipelas, gangrene (after embolism), cerebral hemorrhage, meningitis, and paralysis.

The following sequelæ may be presented after cure of wounds of the heart: contractions and incompetencies of the cardiac orifices, hypertrophy or atrophy of the heart, aneurisms of various kinds, palpitations, &c.

With regard to the gravity of wounds of the heart, the statistics of the 452 cases collected by Fischer give the following results:—

Immediate death	104
Consecutive death	219
Recovery	72
Termination unknown	57

The causes of immediate death are: a great extent of injury, hemorrhage, cerebral anæmia, compression of the heart by effusion within the pericardium, &c.

The causes of secondary death are: hemorrhage, formation of clots within the heart, inflammations of various forms, hectic fever, &c.

Of the 72 cases of recovery, 60 related to wounds of the heart, and 22 to wounds of the pericardium.

In 30 instances the existence of a wound of the heart was revealed by consecutive autopsy, and in 36 also the diagnosis was established only from the symptoms presented by the patient.

Art. 191.—*Cases of Inguinal Hernia; Operations for the Radical Cure; Results.*

Under the care of Mr. John D. Hill, at the Royal Free Hospital.

(*The Lancet*, August 7.)

Occlusion of the inguinal canal is the object which is desired in every operation for the radical cure of an inguinal hernia, and however much surgeons may differ as to the *modus operandi*, this is the leading principle. In the respective contributions to this subject by Mr. John Wood, Professers Fayrer and Syme, MM. Bonnet, Watzer, and Gerdy, several most ingenious methods have been devised. It is therefore desirable, in a question of such practical importance, to record all cases which have been submitted to the curative process, in order that the kind of cases suitable for operation, and the relative merits and advantages of particular operations, may be made known.

The following notes are from Mr. Hill's case-book. The patients were severally operated upon after the methods which have been described by Mr.

John Wood and M. Gerdy. The condition nine months and twelve months respectively after operation is given.

Case 1.—Henry C——, aged twenty-three years, by occupation a laborer, was admitted into the hospital June 8th, 1868.

History.—About three months previous to admission, while employed in lifting timber, he felt something suddenly give way in the right groin. This was followed by swelling and tenderness at the seat of injury; the latter, however, soon passed away, while the former continued to increase gradually, but always disappeared on his assuming the recumbent posture. Since the accident he has never been free from pinching pain in the bowels on attempting to lift even an ordinary weight; and at last, being quite disabled, he came to the hospital. He had never worn a truss.

Present condition.—A hernial tumor about the size of a walnut projects at the external abdominal ring, which can be reduced by gentle pressure. When the forefinger is passed into the inguinal canal, invaginating the scrotal coverings, the margin of the internal ring can be distinctly felt. This is stretched towards the mesian line, while the external ring is drawn outwards, and thus the obliquity of the canal is reduced. On measuring its capacity, the forefinger and tip of middle finger can be inserted within the external ring. The hernial sac apparently contains intestine.

Treatment and progress.—To-day (June 12th), after the bowels had been relieved by a purgative, Gerdy's operation was performed in the following manner: The patient being in the recumbent posture, the right forefinger of the operator was passed into the inguinal canal, tucking up a sufficient quantity of the scrotum to prevent any tension or dragging upon the suspensory wire when inserted. He was then requested to cough sharply, and by the impulse thus communicated the intestine was found well guarded by the finger. Next, a strong curved needle, armed with stout silver wire, was guided along the finger, and thrust through the invaginated scrotum, conjoined tendon, and inner pillar of ring, transfixing the integument an inch above Poupart's ligament. The needle, having been disengaged, was now attached to the lower end of the wire, and again guided along the finger through the invaginated scrotum, outer pillar of ring, and integument, appearing just above Poupart's ligament. The wire was now made tense, and retained so by an assistant, whilst a coil of strapping of the thickness of a No. 12 bougie was attached to either end, and rolled home. A pad and spica bandage completed the operation, after which he was removed to bed, and ordered twenty minims of tincture of opium.

June 13.—Complains of pain in the course of the inguino-cutaneous nerves. Ordered twenty minims of tincture of opium every four hours.

14.—Better. Pain subsided after the second dose of opium.

15.—There is considerable thickening in every direction around the wire (lymph deposit), and slight oozing of pus from the wire holes.

19.—Thickening is much increased; removed the wire; bowels relieved.

25.—Thickening lessened; wire holes healed.

30.—Invaginated scrotum seems pretty secure; no protrusion on coughing whilst standing upright, and but slight impulse.

July 15.—Occlusion of the inguinal canal is now very complete. On making traction upon the scrotum, the invaginated portion is firmly held in position by adhesions.

July 24. Discharged, but instructed to wear a light truss on resuming laborious work.

June, 30, 1869.—Invaginated scrotum remains intact. He follows a light occupation (messenger), and does not wear a truss except when called upon to lift.

Case 2.—John B——, aged seventeen, a weakly, attenuated boy, was admitted into the hospital on the 19th of October, 1868.

History.—He has generally enjoyed pretty good health, although he was never capable of much hard work. Some time ago noticed a fulness in left groin; and about two months previous to admission, during a sharp attack of coughing, felt something give way there. This was soon afterwards followed by a swelling, which increased on lifting or otherwise exerting himself; and he became much troubled with pain and uneasiness in the belly. Had never worn a truss.

Present condition.—The abdominal walls are exceedingly thin, and there is a tendency to rupture an inch above the umbilicus, and in the right groin. In the left inguinal region is a hernial tumor, about the size of an egg, containing intestine. This can be easily returned. The obliquity of the canal is so considerably reduced that the inner half of the internal ring corresponds to the outer half of the external ring; and thus the hernia has become almost direct. This appears to arise rather from the yielding nature of the structures than from the application of any extraordi-

nary amount of force. The ring margins are very thin and elastic, and the boundaries of the inguinal easily defined.

Treatment and progress.—The bowels having been previously relieved by an aperient, chloroform was administered on October 28th, and Mr. John Wood's operation performed as follows: An incision about an inch in extent was carried through the skin of the scrotum over the fundus of the sac. The skin was next separated from the fascia, and the invagination of the latter carefully effected. A needle armed with strong silk was then passed through the invaginated fascia, conjoined tendon, and internal pillar of the ring; next through the fascia and external pillar; and, lastly, through the fascia, triangular aponeurosis, and the internal pillar. Thus a loop and two ends were seen appearing externally at one aperture in the skin—the loop passing through the external, the ends through the internal pillar of the ring. The operation was completed by threading the lower end through the loop; and after drawing together the margin of the ring, so as to hug the cord, the ends were tied together over a coil of strapping; and, lastly, a pad and spica bandage were applied.

Oct. 28.—Complains of pain in the course of the inguino-cutaneous nerves. Ordered twenty minims of tincture of opium.

Nov. 1.—There is some thickening around the ligature, and slight oozing of pus along it; is now free from all pain.

3.—Thickening is increased; wound is nearly healed.

5.—Wound is healed; ligature removed.

14.—While standing erect no preternatural impulse is felt on coughing. Ordered to wear a pad and bandage.

20.—Cicatrix is firm, and all thickening has absorbed.

28.—Discharged sound.

Dec. 28.—Is now able to follow his employment without any support. Is, however, instructed to wear a light truss when lifting or doing heavy work.

On July 17th, 1869 (nine months after the operation), he attended at the hospital. There had been no return of the rupture; indeed, Mr. Hill says the inguinal canal seemed to offer more resistance on coughing than the muscular walls generally. The patient wears an elastic abdominal support, and occasionally (*i. e.*, before lifting weights) a light truss.

In these cases Mr. Hill carefully determined the following points previous to the operation: 1. The age, occupation, habits, and state of health of the patient. 2. The variety, condition, situation, and size of the hernial protrusion, with the course and dimensions of the canal. 3. Its cause, whether congenital, gradual, or sudden. 4. The amount of care which the patient could insure after the operation. Both patients were young, healthy, and temperate, and they had a fair prospect before them as regards suitable employment for the future. In case 1 the simpler operation was selected because of the smaller size of the hernia, its recent date and sudden cause; while in case 2 the more complicated operation was chosen because of the larger size of the tumor, the dilatability of the inguinal canal, and the more direct course of the hernia.

ART. 192.—*Can an Inguino-Scrotal Hernia be Reduced* en masse?

By JOHN COUPER, F.R.C.S.

(*London Hospital Reports*, vol. iv.; and *British and Foreign Medico-Chir. Review*, July.)

To the question here proposed, an affirmative answer was generally given a few years since; but it is now ascertained that in many cases, where a reduction *en masse* was supposed to have occurred, the hernia really passed into a sac situated in the parietes of the abdomen, while the internal strangulation still persisted. Mr. Couper relates a case in which a man who had long suffered from hernia, and wore a truss, reduced the rupture, but nevertheless still suffered from strangulation of the intestines. Mr. Couper performed an operation having for its object to divide the stricture; but, in the first instance he opened only the intra-parietal sac, and consequently did not divide the stricture; but he subsequently discovered that the intra-parietal sac was shut off from the cavity of the abdomen, and having at last divided the stricture the strangulation was

relieved. The man, however, died twenty-four hours after the second operation, and no post-mortem examination was allowed. The intra-parietal sac, in each case, appeared to be formed in the substance of the abdominal muscles.

Art. 193.—*Case of Traumatic Stricture.*

By Christopher Heath, F.R.C.S., Assistant-Surgeon to University College Hospital.

(*British Medical Journal*, July 17.)

In cases of traumatic stricture, complicated with fistula, Mr. Heath's experience is that, if the urethra is restored to its natural calibre, the fistulæ close spontaneously; but it is possible that severe cases might require a touch with a hot wire to make them heal up.

Case.—Mr. W. H., aged eighteen, a midshipman, in June, 1867, fell off the wharf at Trincomalee astride the gunwale of his boat, and ruptured his urethra. He was landed and put under the care of a naval surgeon, who unfortunately died of an apoplectic fit the same day. Being consequently neglected, he got extravasation of urine, and his life was only saved by the arrival, on the following day, of a military surgeon, who made free incisions into the distended scrotum. He eventually recovered, with a fistula of considerable size behind the scrotum. He was taught to pass a No. 8 silver catheter for himself, and continued to do so for a couple of months; but then, being on active duty, unfortunately discontinued the practice.

The patient came to Mr. Heath on May 14th, 1868, in good general health. There was a minute fistulous opening behind the scrotum; from which pus exuded, and considerable thickening about the urethra in the neighborhood. He passed water in a very small and twisted stream, which was occasionally forked. The urethra was so sensitive that he could not bear me to pass an instrument, and could not pass a No. 3 silver catheter for himself.

On the following day, under the influence of chloroform, Mr. Heath succeeded in getting No. 4 silver catheter through a tight stricture, and introduced Holt's dilator and split up the stricture to the full size, passing No. 12. Ths patient passed a little bloody water three hours after the operation, and nearly clear water in the evening. He had a good night without any sleeping draught.

The day after the operation, he was a little feverish, and had a slight rigor; and finding that he had had jungle fever in India, Mr. Heath put him on quinine, in two-grain doses, and he had no further trouble. He passed water quite comfortably.

On the third day after the operation, Mr. Heath passed a No. 10 silver catheter easily, and the patient went out for a walk. The day following, Nos. 11 and 12 were passed; and on the fifth day he passed No. 12 bougie olivaire with case. A fortnight afterwards he was quite well and able to pass his instrument satisfactorily; the fistula had closed. The advantage of the olivary bougie over the ordinary one is that it is slightly conical, and also that the bulb at its extremity enables it to pass readily along the urethra without catching in the wall. Mr. Heath has found them most convenient after Holt's operation.

Art. 194.—*Stricture of the Urethra; its Prevention, Early Detection, and best Method of Treatment.*[1]

By W. F. Teevan, B.A., F.R.C.S.

(*British Medical Journal.*)

Mr. Teevan wished to draw attention to the importance of detecting stricture of the urethra in its earliest stage. The ideas as to the signs denoting the

[1] Abstract of a paper read at the thirty-seventh annual meeting of the British Medical Association, held in Leeds, July 27, 28, 29, 30, 1869.

presence of stricture were vague. Mr. Teevan defined stricture to be "any diminution of the normal calibre of the urethra, the result of the contraction of organized lymph." The presence of a gleet, of six months' duration or more, might commonly be regarded as the outward and visible sign of the existence of a stricture which might, perhaps, in no way interfere with the flow of urine; and the actual presence of such stricture might be demonstrated by the *bougie à boule*. That instrument was invented by Sir C. Bell, and was by him made in metal. Leroy d'Etiolles improved its usefulness by making it of an elastic material, which allowed the instrument to follow the deviations of a tortuous and deformed urethra; its diagnostic value was still further enhanced by Dr. Henry Dick, who had the shoulder of the bougie made sharp and angular. The *bougie à boule* was simply for diagnosis. It would, as it was being withdrawn, catch at the slightest unevenness in the urethra, and told accurately the slightest change in the mucous membrane. That tissue, in its normal condition, transmitted through the bougie the sensation of travelling along a velvety path; and, if there were any constriction, not only would that fact be communicated to the surgeon, but also the degree of pathological change which the urethra had undergone. The *bougie à boule*, therefore, would detect stricture of the urethra in its earliest stage; and the treatment of such stage might correctly be termed the preventive treatment. When a patient went to a surgeon for a gleet, he ought always to be examined with the *bougie à boule*, for it was necessary to ascertain the pathological condition of the canal before an appropriate treatment could be decided on. If there were no constriction, deep injection was proper; but if there were contraction, however slight, it would be aggravated by injection, but cured by gradual dilatation. Mr. Teevan, after enunciating M. Mercier's views of the pathology of stricture, discussed the seats of stricture as deduced from facts observed by himself. He grouped together stricture at the bulb or membranous urethra, and called it "subpubic." This was by far the most common kind of stricture, simply because the triangular ligament favored its production. This next stricture in order of frequency was the "penile," situated at a spot varying from two and a half to three and a half inches from the meatus externus. This stricture was rarely absent, in some degree, when the other was present. The rarest form of stricture was that just within the meatus, the "orificial." Strictures, regarded in their physical confirmation, were of two kinds—the "tunnel" stricture and the "ring" stricture. He called them so on account of the sensations communicated to the *bougie à boule* when passing through them. Subpubic strictures were generally of the tunnel kind; orificial strictures were of the ring character; and penile strictures partook of both forms. The measurement given of the length of the urethra varied from seven to eight or nine inches. He had found the average length to be 7⅛ inches, as deduced by himself, from measuring the urethra of one hundred males. Regarding the treatment of stricture, he stated that, after witnessing the practice of various surgeons, and trying different methods, he had come to the conclusion that there was no treatment equal to that of gradual dilatation by means of the *bougie olivaire* and the piliform bougie, which treatment, he believed, he was the first to introduce into English hospital practice. Forcible dilatation was only applicable to the easier kinds of strictures; it was not devoid of danger; it caused an unknown lesion; it had to be always followed, and often preceded, by gradual dilatation, so that it could only be regarded as an occasional auxiliary in the treatment of stricture. Gradual dilatation was the safest treatment for the patient, for out of one thousand recorded cases, there had not been one death; all the sufferers could be treated as out-patients, and no man need ever lose an hour's work during the treatment. The *bougie olivaire* glided in so easily that the patient was scarcely aware of its presence. It was necessary to pass an instrument about once in every three or four months, even after an apparent cure. Dilatation ought to be conducted up to the highest size that the urethra would take.

ART. 195.—*On the Action of Urine and Saliva on Tissues which are not protected by Epithelium.*

By Prof. G. SIMON.

(*Deutsche Klinik.* 15; *Schmidt's Jahrbücher*, No. 8.)

The dogma hitherto adhered to in surgery, that urine acts injuriously upon exposed tissues, prevents union by first intention, kills the tissues, and reacts upon them both in an acid condition and when it has undergone alkaline decomposition, has been controverted by Professor Simon, who was led to form other views on this point from the result of operations on the female urinary and generative organs. These views he has lately attempted to strengthen by experiments on animals.

In the first place, unmixed acid urine was injected subcutaneously in dogs; this was absorbed without causing the slightest bad effect. The same result attended similar experiments on men. Operation wounds also, after they had been moistened with fresh urine, still healed by first intention. Urine mixed with mucus, and with mucus and pus, was injected on animals without any damage. In experiments with ammoniacal urine, filtered and unfiltered, abscesses were produced, the coverings of which sloughed, leaving slowly healing ulcers. From the results of these experiments it is concluded that small quantities of acid urine, either pure or mixed with pus and mucus, can be injected into unprotected tissues with impunity, whilst upon the same tissues alkaline urine acts injuriously.

Whilst, according to Billroth, urine is decomposed by the serum, or the fluid contained within subcutaneous connective tissue, and thereby is likely to set up gangrene, Professor Simon contends, from the results of experiments, which consisted in adding urine to dead organic tissues and fluids and mixing them together, that acid urine does not tend to rapid decomposition, and that even when mixed with a small quantity of dead organic matter, it does not undergo any alkaline decomposition before the fifth or sixth day, and in closed vessels is not decomposed before the tenth day. Thus it seems that acid urine, like a solution of salt, preserves organic tissues.

By further experiments by injecting dogs, Professor Simon convinced himself that even acid urine, in extensive contact with living organic tissues, and after prolonged stagnation in the subcutaneous connective tissue, does not undergo ammoniacal decomposition, and, moreover, that acid urine that has been in contact for a long time with dead organic material, or has stagnated for a long time in the subcutaneous connective tissue of a living animal, does not exert any hurtful influence upon living tissues.

With regard to the origin of the sloughing, which in men occurs rapidly, and to a great extent, after infiltration of acid urine, Professor Simon remarks that since, as may be concluded from his experiments, acid urine does not constitute the condition of this infiltrative sloughing, its cause must exist, not in the chemical, but in the mechanical action of the fluid, which is forced out among the tissues with great violence by means of the muscular bladder at the abdominal pressure. Through this the muscles are forcibly separated, the integument detached, and the nutritive vessels torn or compressed. Therefore must the gangrene arising from urinary infiltration be regarded as a result of pressure from within.

The importance of these views concerning the harmless action of acid urine upon exposed tissues, wounds, and cicatrices, is evident, and the influence of these altered opinions on those plastic operations which are sometimes performed on the urinary and generative parts is very considerable. The retention of the catheter, so frequently practised, may be avoided, care being taken to keep the parts perfectly clean.

In those rare cases in which the patient upon whom it is required to perform a plastic operation of this kind passes alkaline urine, the surgeon must endeavor to arrest the alkaline decomposition. When the operation admits of no delay,

the operation must be performed with the greatest care, so that no drops of urine can pass between the edges of the wound. In cases of this kind Professor Simon does not recommend the retention of a catheter.

In the treatment of urinary infiltration, Professor Simon, guided by his theory, makes an opening into the urethra through the perinæum, and through this passes a catheter into the bladder. The infiltrated urine is left to itself. Saliva, also, has no injurious action upon uncovered tissues, wounds, and the like. This Professor Simon has proved by injections of the secretion under the skin of oxen and dogs. From this it follows that the surgeon must not fear to perform a necessary operation when there is excessive salivary secretion, so long as there is no other ground for delay.

ART. 196.—*On Abscess of the Prostate; Treatment by Puncture per Rectum.*

By C. F. MAUNDER, F.R.C.S.

(*Guy's Hospital Reports*, vol. iv.; and *British and Foreign Med.-Chir. Review*, July.)

The subjective and objective symptoms of abscess of the prostate having been first described by Mr. Maunder, he then discusses the question of treatment. Sometimes the abscess breaks into the rectum or the urethra or the bladder, but rarely through the perinæum. But before this spontaneous rupture of the abscess takes place, the patient suffers very severely both locally and constitutionally; and the timely artificial opening of the abscess does much better in cutting short the sufferings, and in expediting the recovery. Of the three modes of opening the prostatic abscess—namely, through the perinæum, through the rectum, or by forcible catheterism—Mr. Maunder prefers the second; and he describes the particulars of this operation, and also details three cases in which it was successfully performed. The instrument to be used is a bistouri caché for opening the abscess, and when the opening is made, a pair of dressing forceps should be introduced into the abscess, when, on separating the handles, the blades will open, the wound will be enlarged, and the matter will flow.

ART. 197.—*On Catheterism in Cases of Cancer of the Prostate.*

By Dr. JACQUES JOLLY.

(*Archives Générales de Médecine*, August.)

"As in all internal cancerous affections, the practitioner rests disarmed before the development of this affection, which tends inevitably to death. All that he can do is to attempt to soothe his patient by all the means in his power—to relieve pain by opiates administered in all forms—to combat constipation and retention of urine—to support the strength of the patient by means of an appropriate hygiene, suitable nourishment, and tonics; such is the course the practitioner ought to propose to himself.

"To prevent the accumulation of urine in the bladder and to remove the violent pains which it excites, it is often necessary to have recourse to catheterism. The surgeon should not forget, however, that this proceeding is not without danger in cancer of the prostate, and that he ought not to carry it out unless with great prudence and extreme gentleness. Hemorrhage, at times very serious, is always to be dreaded; consequently, no instrument should be passed on patients thus affected unless one cannot do without it. Some surgeons have attempted—in order to avoid the inconvenience of the frequent introduction of the catheter—to leave the instrument at rest in the bladder; but, in general, it has not been tolerated, because of the excessive pains which are excited by it, and it is only in exceptional cases that patients have been able to retain it for more than twenty-four hours.

"Finally, when one cannot succeed in introducing an instrument into the

bladder, and when symptoms of retention of urine become menacing, one is justified in practising vesical puncture, without hope, it is true, of curing the patient, but in order to relieve pain, and to prolong life for a time. The operation has been done four times under these conditions, and with the exception of one case, where the wound became the starting point of fatal erysipelas, it did not seem to have any influence upon the fatal termination of the cancer."

ART. 198.—*A Curious Case in which Incontinence of Urine was the first and almost the only Symptom of Prostatic Retention, with Secondary Disease of the Kidneys.*

By JONATHAN HUTCHINSON, F.R.C.S.

(*London Hospital Reports*, vol. iv.; and *British and Foreign Medico-Chir. Review*, July.)

In this case the patient suffered from involuntary discharge of urine, which at first suggested the probability of diabetes, or Bright's disease, but no sugar or albumen could be deteeted. Dr. Peacock thought that although some of the urine was voided, a large residuary quantity might be retained; and this opinion proved correct, for on the employment of the catheter, a large quantity of water was drawn off. The patient now ceased to suffer from incontinence, but he also ceased to pass his urine voluntarily, and the use of the catheter was required daily. Mr. Hutchinson found on examination by the rectum that the prostate was enlarged, but still the catheter encountered no obstacle at the neck of the bladder. The condition of the patient became gradually worse, and yet no definite cause could be assigned for the symptoms, and death ensued after a state of somnolence. The post-mortem examination revealed the facts that the ureters were as large as small intestine; that the right kidney was a mere bag filled with fluid; that the left was much enlarged and inflamed; that the bladder was of large size, with thick fasciculated walls, and that the prostate was moderately enlarged, but that an almost pedunculated lobe projected from it into the bladder. Mr. Hutchinson observes that the whole kidney mischief was secondary to concealed and unsuspected retention, which had probably existed for some time, and that if the condition had been recognized at an earlier period the remedy would have been found in the use of the catheter, or in the establishment of a permanent fistula above the pubes. In the case described, however, the patient complained of so little uneasiness, and attended so regularly to his business every day, that no serious danger was apprehended even by himself; and the only complaint he made was, that he frequently wetted his bed, and lost his urine while walking.

ART. 199.—*On the Treatment of Tubercular Disease of the Testicle.*

By Dr. SALLERON.

(*Archives Générales de Médecine*, August.)

According to Velpeau the therapeutics of tubercular engorgements of the testicles ought to take for their starting-point the two following propositions: 1stly. When abandoned to itself the disease almost instantly terminates through wearing itself out and disappearing in more or less complete disorganization of the testicle; 2dly. Tubercular disease of the testicle never necessitates castration. The last proposition ought to be admitted absolutely, for ablation of one testicle does not prevent the other, when it contains tubercular germs in a latent state, from taking on the same disease; it is perhaps even the means of accelerating its development by displacing the movement of fluxion.

With regard to the former proposition, this seems much more questionable; for to take as a cure the more or less complete disorganization of so important an organ as the testicle, proves clearly and admits implicitly the inefficacy of the vaunted means for combating this affection. Unfortunately, this power-

lessness is but too real, and since according to facts which have been observed, tubercular disease of the testicular parenchyma appears much less susceptible of becoming extended, and propagated to the vesiculæ seminales than that which exists in the epididymis, it is right to follow the advice of Velpeau to abstain from making a sacrifice of the part in order to preserve the whole, and not to cause the patient to run without advantage the risk of an operation which is always useless, and sometimes followed by serious consequences.

But when the tubercular affection is limited to the epididymis, which most frequently happens, at least after the twentieth year of age, the local means proposed by authors under the title of topical remedies, such as pommades, plasters, and resolvent liquids, appear to have no efficacious action, and rather tend to accelerate the ramollissement of the tubercles, unless there be an error of dignosis and the case one of simple blennorrhagic engorgement; for in the genital as in all other organs, tubercle shows very little tendency to disappear by absorption, notwithstanding the contrary opinion of Delpech. If pommades of iodide of lead, potassium, and mercury, and plasters of soap, hemlock, &c., and at the same time, the internal administration of iodide of potassium, iodide of iron, hydrochlorate of baryta, tannin, sulphur baths, aromatics, alkalies, &c., succeed, then in all probability these remedies have been employed against syphilitic or blennorrhagic swellings. But the employment of all these means has more than doubtful efficacy against a well marked tubercular affection, and whenever I have found patients affected with tubercular epididymitis, these have already carried out such treatment continuously and for a long time, but with no good appreciable results; consequently, I have lately abstained scrupulously from all active medication so as not to keep the patients useless in the hospital, a long sojourn in which is not always exempt from inconveniences. It is, however, just to recognize the fact that by the combination of different internal and external means employed against suppurating tubercles, one may sometimes obtain a relative but never a complete cure; for if cicatrization of the existing fistulous tract be obtained, these same means have no action in determining the absorption of tubercles which persist in the crude condition. Moreover, if the affection be unilateral, by suppressing the pathological action taking place on one side, the surgeon must have greater fear as to the other.

Curling has proved by two positive facts figured in his work, the cretaceous transformation of tubercles. This transformation, capable of taking place in the genital organs, as in the lungs, will be, not a cure, but a very desirable mode of termination, and one of a nature to prevent many possible accidents, but as the therapeutical means at the disposal of science are not such as to produce this result, I think that in such circumstances, it must be accepted as an exceptional fact, and as a benefit from the medicinal power of nature, which art is not able to provoke. When the tubercular engorgement of the testicular parenchyma passes into the inflammatory state, it is necessary to combat it by the antiphlogistic measures and resolvents employed in like circumstances. One can, without doubt, triumph over complications and retard the dissolution of the organ; but as one does not cure the principal affection which should inevitably insure sooner or later the loss of the testicle, I think that in this case it would probably be of more avail to allow the disorganization to follow its course, than to follow a too energetic treatment, which would debilitate the patient by pure loss, and without sufficient compensation.

When the tubercular affection causes fungous protrusion of the testicle, is it proper to wait patiently for spontaneous elimination, since there is no rigorous necessity for castration, and the operation is not always without danger? I think that in such a state of affairs temporization would not be without serious inconvenience, and might, by prolonging the sojourn of the patient in the hospital, and by allowing the persistence of a suppuration more or less fatal and abundant, result in a prolonged decubitus always more or less compromising for the general condition. After the favorable result obtained in one case from the use of Canquoin's paste, I think that in similar conditions, and when the mass of the testicle has very evidently been destroyed, it is well to employ local caustics in order to accelerate the detachment of the morbid mass and to hasten cicatrization. This plan of action which has regard to the integuments

and cord, is far preferable to the use of the bistoury, because it gives less fear to the patients, is not in their eyes an operation, and, above all, is not of such a nature as to cause those complications which are so often observed after the use of a cutting instrument; it even leaves behind a nodule which may satisfy the imagination of the patient.

Should it be admitted, with Aug. Bérard, that tubercle of the testes ought to be not only removed early, but also extirpated entirely? Notwithstanding the name of its supporter, this line of action seems as irrational as that of Lisfranc, who removed the cancerous neck of the uterus, an operation which has happily fallen into just oblivion, and which no longer figures in surgical science. As the insufficiency of pharmaceutical means seems to be almost positive against an affection which is insusceptible of resolution, and which must inevitably pursue all its stages until complete evolution of the tuberculous material, nothing more remains than the employment of the hygienic measures commended by all authorities who agree in recommending fresh air, much exercise, sufficient nourishment, and, at the same time, according to Velpeau, the internal administration of iodide of potassium, iodine, tannin, &c. None of these authorities, however, cite facts of a positive cure by the use of such means, which are not always readily procurable by a great number of patients obliged to seek from daily labor their means of existence.

Tubercle of the genital organs being most frequently developed in great human agglomerations on the bodies of men living in a community and associated in confined spaces and in a close atmosphere, it was rational to prescribe a sojourn in the country, where the development of this affection is rarely observed. But against the disease, when developed and in full activity, its efficacy is at least very problematical, as has been proved by five cases of Arabs living in a medium and in conditions of habitation in which pure air and a splendid sun rarely failed them. It is necessary, however, to acknowledge that this, perhaps, the sole means, not of arresting the development of the tubercle, preventing its softening, and favoring absorption, but, on the contrary, of accelerating dissolution and spontaneous elimination, and obtaining a certain cicatrization of fistulous tracts, and, moreover, of preventing complications which might compromise the general health and lead to the loss of the patients.

With the existence of an infusion of serosity into the tunica vaginalis, is it indicated to make a puncture, followed by injection of iodine? Doubtless, by the puncture the surgeon diminishes the size of the tumor, which then becomes less troublesome. The condition of the gland and the epididymis can then be better made out. But when the iodine injection is followed by resolution, I believe, notwithstanding the opinion of Velpeau, that there has been an error in diagnosis; that the surgeon had simply to do with a blennorrhagic swelling; for, as I have often said, preparations of iodine seem to be quite powerless against the truly tubercular engorgements.

ART. 200.—*On the Detection and Treatment of Foreign Bodies in the Bladder, with Remarks on the Use of the Endoscope.*[1]

By EDWARD LUND, F.R.C.S.

(*British Medical Journal*, July 31.)

There is one source of difficulty, Mr. Lund writes, in using this instrument, which may cause much annoyance. It is that, in order to see an object with the endoscope, in the bladder filled with urine or water which has been injected into it, it is necessary that the window of the endoscope-tube should be brought into very near contact with the body to be examined; indeed, the tube should first be used as a sound or searcher to find the foreign substance; and then, having got some clue to its exact position in the bladder, we may hope to have it properly illuminated. If this is not done, the water by which the window of

[1] Being the substance of a paper read before the Medical Section of the Manchester Royal Institution on April 7, 1869.

the tube is surrounded absorbs the light so completely that, to use Dr. Cruise's own words, in a letter to the author on this subject, "you can see nothing but darkness until the window of the speculum touches some object, such as the mucous membrane, a stone, or the like." This property of water to absorb the rays of light is well known to opticians; for it is said that, during the operation of diving in deep water, at a certain distance below the surface, all the light from above is cut off, and darkness prevails; and this same condition may exist in diving about in the bladder with the endoscope-tube, seeking to discover some foreign body, when, if it happens to be of a dark color, we may imagine that we are really viewing it, while all the time the black color produced is the result of the light being shed out into the mass of water through the window of the speculum tube.

T. W. H., aged seventeen years, was admitted into the Manchester Royal Infirmary, under Mr. Lund's care, on August 28th, 1868. He was an intelligent, well-educated boy, of rather reserved, taciturn disposition; and all the author could ascertain in reference to the case was that, about four days previously, in the evening, while in a dark room, he had passed a piece of India-rubber tubing, such as is used for infants' feeding-bottles, along his urethra; the penis becoming suddenly erected, the tubing slipped into the bladder, and he could not recover it. He did not have any pain; and it was not until two days afterwards, when he could not pass urine, and was suffering great distress from the distension of the bladder, that a surgeon was sent for, and he confessed to him what he had done. A catheter was used. It could not be passed quite into the bladder, for it seemed as if the urethra was blocked up by some foreign body; but, on withdrawing the instrument, the urine flowed off, with occasional interruptions, until the bladder was emptied; and after this he had no further difficulty in the passage of the urine. The boy stated that the piece of tubing was about six inches in length, and of the diameter of a common writing-quill.

On August 29, Mr. Lund examined him with the endoscope while lying on his back in bed. Chloroform was not given, and the patient bore the examination very well. Mr. Lund could see a dark mass in the bladder on his left side, with a sharp outline or edge; while all the other parts of the interior, where the mucous membrane could be seen, were of a pinkish salmon color.

On September 5, the urine, before clear, acid, and free from mucus, contained a little mucus; and on the 11th this had become muco-purulent, with a very slight trace of albumen. On the 19th, Mr. Lund again used the endoscope; but he could not, after the most careful search, discover the dark black mass which he had before seen; and from this he concluded that there had been some error in his previous observation, and what he had thought to be a foreign body must have been only the darkness of the unilluminated bladder. The patient now complained, for the first time, of pain along the penis and in the glans after micturition, and also a sensation as if something solid were about to enter the urethra with the flow of urine; but none of these symptoms were constantly present.

On the 28th, Mr. Lund made another examination; and now he was convinced that he could see the tube in the bladder, as, in the window of the endoscope, one-half the space was dark, with a sharp edge, the rest being of the color of the mucous membrane; and in this he was confirmed by the testimony of Mr. Fennell, house-surgeon, who recognized the same appearance. But on attempting to move the instrument about to catch another view, the foreign body slipped out of reach, and Mr. Lund could not refix it in position, even after much perseverance; so that he was compelled to be content with this single observation. Acting chiefly, therefore, on information thus obtained, on 2d October the patient was placed under chloroform, and lateral lithotomy was performed in the usual way. The author found a foreign body in the bladder; felt the end of the tube; drew it down by means of a blunt hook with which he had provided himself; and extracted it with a small pair of nasal polypus forceps. The external wound was rather small; there was no hemorrhage; and he did well. From this date the boy made a good recovery, and left the hospital on 9th November, 1868, thirty-eight days from the date of the operation.

Art. 201.—*Calculus Vesicæ: Case where Death followed the Introduction of the Lithotrite.*

Under the care of Mr. Henry Smith, of King's College Hospital.

(*The Lancet*, August 21.)

The patient's case is interesting and instructive, as it shows what serious results may ensue from the introduction of an instrument into the bladder of an apparently healthy person, especially should there exist any disease either of the organ itself or of the kidney. Instances have occasionally been met with in the hands of various surgeons where death has rapidly followed even the mere introduction of a catheter or sound, and it is probable that in most of these instances some disease of the kidneys, which was not ascertained during life, existed to render the operation so dangerous. In the case we are about to relate, the man was of such a remarkably healthy appearance, of small and wiry frame, that there was not even a suspicion of any organic disease about him, and no case would appear to have been more favorable for an operation. Mr. Smith also used the utmost gentleness in introducing the lithotrite for the purpose of ascertaining the size of the stone, and had not the slightest difficulty in laying hold of it, and the fatal result of this manœuvre was a matter of astonishment to all those who witnessed the introduction of the lithotrite.

H. D——, aged sixty, a spare, wiry-looking, healthy countryman, was admitted into the hospital on January 18, with symptoms of stone. With the exception of these symptoms, the man seemed to be in remarkably good health.

On the 20th, Mr. Henry Smith introduced a moderate-sized lithotrite very gently into the bladder, and, opening the blades, immediately seized a stone, which he measured and found to be about three-quarters of an inch in diameter, and apparently very hard. This proceeding only lasted a few moments, and produced scarcely any pain. Mr. Smith determined to crush the stone in a few days.

On visiting the patient on the 22d, Mr. Smith was surprised to find him suffering most severely from vesical irritation, the symptoms being continual desire to pass urine, which was effected with severe pain, and only in small quantities. Warm baths and opiates (both by the mouth and rectum) were exhibited, but gave scarcely any relief. The general system soon became affected, and a low typhoid condition was established; and the patient continued in this state of extreme suffering until the thirteenth day after the use of the lithotrite, when he died.

On post-mortem examination the following appearances presented: A stone composed of oxalate of lime, and slightly covered by phosphates, was found lying on the base and left side of the bladder. It was nearly as big as a blackbird's egg. At the point where it lay there were three ulcerated patches, the mucous membrane being destroyed. The structure of the bladder itself was much thickened, and on cutting through its walls there were seen two or three cavities containing purulent matter, and these cavities were lined by a distinct and well-formed membrane. The prostate was much enlarged. The right kidney was much enlarged, and the surface was studded over with minute whitish deposits. The cortical structure was much congested, and the calyces of the kidney contained some muco-purulent secretion. Left kidney healthy.

In some remarks which this case gave rise to, Mr. Smith stated that it was fortunately one of extreme rarity. He had never witnessed any bad results from the passage of a lithotrite, although, of course, like others, he had on more than one occasion witnessed the most violent symptoms, and even death, after a single act of crushing a stone. He must confess that he was sorely puzzled, when the violent symptoms came on, to know how to account for them, and he was in doubt whether he should not introduce the lithotrite, and break up the stone at once—a measure which is known to be very effectual in removing similar symptoms after a stone has been once broken probably into large fragments; but he thought the proposal too hazardous. Then the question naturally oc-

curred to him as to whether he should not perform lithotomy, and thus remove what might be the offending cause. He considered this point very seriously, and conferred with his colleagues about it; but it was not deemed advisable, in the condition the patient was in, to resort to this step. The appearances after death justified the wisdom of non-interference; for it was clear that disease of the bladder at least, had been going on for some time, and there is no doubt that the simple introduction of the lithotrite and measuring the stone had in that state of things excited fresh mischief. The most extraordinary feature in the case was the entire absence of any symptoms of concomitant disease of the bladder when the patient first applied.

ART. 202.—*On the Employment of Ice in Affections of the Testis.*

By M. DIDAY.

(*Annales de Dermatologie*, Nos. 1 and 3; and *British and Foreign Med.-Chir. Review*, July.)

M. Diday believes that sufficient importance is not attached to this procedure, which is one from which he has derived very great advantage in his own practice on the treatment of blennorrhagic orchitis in irritable testis, and in certain ill-defined affections of the organs of which pain is the characteristic feature.

1. *Blennorrhagic Orchitis.*—It is only quite exceptionally, even in cases of epididymitis, that the testis itself is involved; but when this is the case, the suffering becomes terribly severe. The relief of this is often very difficult; and one of the means which sometimes effects it, incision of the tunica albuginea, M. Diday regards with disapprobation, as it is not unfrequently followed by atrophy of the organ. But of the benefit of the methodical application of cold he has had the most striking proof, some of the examples of which he refers to in this essay. To obtain this, however, the mode of application must be closely observed. Two pigs' bladders are to be soaked for a few minutes so as to render them supple, and, their apertures having been enlarged by scissors, four or five pieces of ice the size of a goose's egg are to be introduced. Before tying the neck with packthread, care must be taken by compressing the bladder above the ice, to free it completely of air, otherwise it will not properly envelop the parts. For the same reason it should be tied as near its aperture as possible. One of these bladders is placed under the testes, guarding the thighs and perineum from cold by napkins. The other is placed over the testes, and so that it may reach, if necessary, as far as the inguinal ring. It is kept *in situ* by means of a handkerchief or small napkin rolled into a circle. At first the application sometimes causes some pain from the weight of the ice, but in a few minutes the patient gets accustomed to this, and in less than a quarter of an hour relief from the previous torture is already marked, while, as a general rule, at the end of an hour all pain has ceased, and the testis has slightly diminished in size. Nor as a rule will the pain return unless the application be too soon suspended. The ice should remain permanently applied for at least eighteen hours, but forty-eight consecutive hours is the mean time that experience teaches may be required. In order to ascertain whether it may be safely discontinued, we must remove the ice and press with the end of the finger the portions of the testes which were at first the chief seats of pain. If this gives pain and the patient flinches, the ice must be reapplied, or a relapse will certainly occur. In some cases it has to be continued for two, three, or even five consecutive days. It is remarkable that this prolongation does not weary the patients, who, alarmed by what they have suffered, and by some lurking sensations, are usually averse to leaving off the ice too soon. It is essential that the necessity should be impressed upon them of the application being quite continuous. The bladders must be replaced by others as soon as the ice has nearly melted, and care must be taken to have a good provision always at hand. In general, when they have been properly filled, the bladders only want renewing every two hours. When the application is tentatively or definitively dis-

continued, the testicle should be covered for an hour or so with cloths dipped in cold water, so as to facilitate the transition to the ordinary temperature.

2. *Irritable Testis.*—This M. Diday regards as a very well-marked form of neuralgia, characterized especially by the absence of all material lesion, and often of any antecedent disease, by the pains being supportable as regards their intensity, but especially annoying by their continuousness, and by the effects which certain conditions exert on them. Thus dorsal decubitus and mental distraction always alleviate them, while walking and crossing one leg over the other always aggravate them—and this always, in all cases, without habit exerting any effect. Just in proportion as the testicular neuralgia approaches this type is the application of ice certain to effect a cure. Two marked examples of this are related; and even in cases in which the success has not been so complete or so rapid, M. Diday has met with an amount of relief attainable by no other means.

3. *Other Morbid Conditions of the Testis.*—These may be of different kinds, but ice will be useful in proportion as pain is the dominant element, unconnected with inflammatory action. That this last is not amenable to the action of ice is seen in the most frequent and best defined of testicular inflammation—blennorrhagic epididymitis, where ice is useless, as it is in inflammation of the testis itself in all but for the relief of pain. A not unfrequent form of nervous pain, which, without being excessive, is very persistent and annoying, is found to prevail in the left side, succeeding epididymitis in persons having varicocele. Here ice is of marked advantage, but it is difficult to induce the patients, in spite of their constant complaining, to devote the time necessary for its effectual application.

Art. 203.—*The Diagnosis of Chancres.*

By A. C. Haynes, M.D.

(*Nashville Journal of Med. and Surg.*; and *Medical Press and Circular*, October 27.)

Constitutional Chancre.

Dr. A. C. Haynes gives the following differential diagnosis of chancres, culled from the best authorities:—

1. It has an incubation of about twenty-five days.

2. It comes first from the direct application of the virus of a constitutional chancre. Second, from secondary accidents in a secreting form. Third, sometimes from the blood of a syphilitic person in the secondary period.

3. It occurs most often alone.

4. It will not inoculate itself on the individual who bears it, nor on a person who has the constitutional syphilis.

5. It does not begin with a vesico-pustule, but by a simple erosion, and sometimes by a papule.

6. The constitutional chancre presents itself under the form of a superficial ulceration with edges inclined. This ulceration is covered, in part, by a false membrane, which resembles in a very marked degree, the spawn of a frog. The borders are of a lively red, the form of the ulceration is generally regular; it suppurates a little.

7. It is rarely painful.

8. It is accompanied, ninety-nine times of a hundred, by an induration at the base; elastic, chondroide induration, having no characters of inflammatory induration.

9. The lymphatic ganglia in the neighborhood of the chancre become indurated and enlarged, hard, and indolent, having no tendency to suppurate.

10. The constitutional chancre produces but very little reaction; has a great tendency to heal; it ulcerates but little, and seldom ever takes on the gangrenous or phagedenic form; it has a very regular march.

11. It is the first apparent manifestation of the syphilitic diathesis; it is then

the sign of the general infection of the economy; we sometimes see the roseol, angine, &c., appear before its complete cicatrization.

12. It belongs especially to the human family.

Local Chancre.

1. It has no incubation.
2. It comes from the contagion of a local chancre or a virulent bubo.
3. It is generally multiple.
4. It is inoculable, *ad infinitum*, to all individuals, including the one who bears it. The pus from the suppurated bubo is inoculable only when it is virulent.
5. It begins with a vesico-pustule.
6. Presents itself under the form of a deep ulceration; the bottom is filled with a species of organic detritus mixed with pus. The borders are as if cut perpendicularly, separated from the adjacent parts.
7. It is nearly always painful.
8. The local chancre is generally accompanied by inflammatory induration, but never by specific induration.
9. It is nearly always accompanied by adenitis in a suppurating form, and sometimes furnishing inoculable pus.
10. It is a very grave local lesion; has a very strong tendency to ulceration; very irregular in its march; has no tendency to heal as the constitutional chancre; it sometimes takes on the phagedenic and gangrenous forms.
11. It is purely a local accident; has no connection whatever with syphilis.
12. Transmissible to some animal species.

Art. 204.—*On Subcutaneous Injection of Bubo.*

By Dr. Wertheim.

(*Wien. Med. Wochenschrift*, October, 1868; and *British and Foreign Med.-Chir. Review*, July.)

Dr. Wertheim attached to the syphilitic and skin department of the Rudolf Hospital, Vienna, states that he has given up all attempts at dispersing buboes by causing their absorption, and now treats them by a very simple and efficacious procedure, subcutaneous injection. A solution of various substances, as morphia, camphor, sulphate of copper, &c., may be used as circumstances require, that of muriate of morphia (gr. iv ad aquæ ʒij) being that which is usually preferable. The ripe abscess is punctured by means of a thick needle, or the tube of a strong Pravas syringe, and after most of the pus has been gently pressed out, the injection of eight or ten drops of the solution is practised, the patient being taught himself to empty every three hours the fluid that may have collected. The injection is at first repeated daily, and afterwards at longer intervals. Although not essential, it is better for the patient to keep in bed. The advantages of the method are that the pain in the abscess almost immediately ceases, and the other inflammatory symptoms steadily diminish; the thickened pus is gradually transformed into a thinner and thinner exudation, gradually decreasing in quantity, so that in three or four weeks it ceases entirely, and no cicatrix remains. The secretion of pus is confined to the spot, and the surrounding induration gradually diminishes.

Art. 205.—*On a Complication of Bubo.*

By M. Clerc.

(*Annales de Dermatologie et de Syphilographie*, No. 5; and *British and Foreign Med.-Chir. Review*, October.)

Under this title M. Clerc draws attention to the fact that peritonitis may constitute a most important complication, he having indeed met with four cases of general peritonitis in individuals the subjects of chronic bubo, three of these

proving fatal. This complication is met with as one of the consequences of chronic bubo occurring in strumous subjects. Several glands are affected, and through the plastic infiltration of the surrounding cellular tissue an ill-circumscribed, hard, voluminous, non-mobile tumor is formed, which seems to consist in a fusion of the deep-seated and superficial glands of the groin, and frequently implicating some of those of the iliac region. This aggregate of glands tends neither to resolution or suppuration, its natural course being to pass into the condition formerly termed scirrhous. Still, under the influence of walking, fatigue, &c., the tumor sometimes becomes partially inflamed; that is, only some of the glands become affected, and passing on to a state of suppuration, give rise to multiple and successive collections of pus. Very frequently in the subjects of these chronic buboes, the lymphatic glands of the iliac region become the seat of a morbid condition, to which it is of great importance to pay attention; for this *adénopathie iliaque*, usually overlooked, sometimes gives rise to most serious accidents within the cavity of the abdomen. This is easily understood when it is borne in mind that the iliac glands are only separated from the peritoneum by a thin layer of lamellar connective tissue, which always becomes implicated in the morbid process of which the glands are the seat. The existence of the subperitoneal centre of inflammation renders a general or partial peritonitis not only possible but imminent.

As we have said, M. Clerc has met with four cases of general peritonitis so produced, and he relates two of these in which post-mortems were performed. This is, however, a rare affection, but he believes partial peritonitis from this cause is of frequent occurrence, although it is frequently overlooked because it is confined to the iliac region, and the patients recover. Both MM. Richet and Petrequin have recognized the fact, that symptoms analogous to those produced by strangulated hernia may have their origin in inguinal adenitis. The complication here described is by no means peculiar to the bubo arising from chancre, but may ensue on chronic inguinal bubo induced by any other cause.

ART. 206.—*Two Cases of Colloid Cancer of the Large Intestine.*

By J. COOPER FORSTER, F.R.C.S.

(*Guy's Hospital Reports*, vol. xiv.; and *British and Foreign Med.-Chir. Review*, October.)

Mr. Cooper Forster relates these cases of colloid cancer on account of the rarity of this form of carcinoma. Colotomy was attempted in one case and performed in the other, but both patients died. Mr. Forster thinks, however, that in the case in which the operation was performed the distress from distension of the bowel was relieved, and life was prolonged for some time.

ART. 207.—*Different Methods of Operating for the Cure of Anal Fistula.*

(*Medical Press and Circular*, October 20.)

On Sept. 20, at the Meath Hospital, Mr. Porter operated on two cases of fistula in ano, in each of which, with a view to instruct his class, he adopted a different method of procedure.

In the first case, that of a strong plethoric man, æt. fifty-five, who had a blind external fistula on each side of his anus, extending up beside the gut for nearly five inches, the operation adopted was carried out by means of a speculum devised by Sir Philip Crampton for the purpose. This speculum, which is made of silver, is sufficiently large to contain the index finger, and has a slit, about a quarter of an inch in width, extending along one side of it for nearly its whole length. The speculum being introduced, and the finger placed in it, a sharp-pointed bistoury is passed into the track of the fistula, and its end felt for by the index finger through the slit in the speculum. Having been found, the finger is withdrawn, and the point of the bistoury pushed through the wall

of the gut and caught in the slit of the speculum. The knife is then made to cut its way to the surface with the usual sawing motion, the point being guarded by the speculum, in which it lies.

In the second case, that of a man æt. thirty-three years, suffering from a blind external fistula on the right side of the gut, the track of the fistula was laid open into the rectum by means of Weiss's convertible fistula knife. The finger being introduced into the rectum, and the knife into the fistula, the end of the latter was felt for, and its sharp point being protruded, was pushed through into the gut; the lancet point was then drawn back, and the probe extremity of the knife being caught against the point of the finger, was withdrawn in the usual way.

In both these cases the wounds were dressed from the bottom with plugs of lint, and the men made rapid and favorable recoveries.

ART. 208.—*Amputation of Penis for Epithelial Disease. Ricord's Operation.*

(*Medical Press and Circular*, October 20.)

Jas. B., æt. sixty, was admitted into the Meath Hospital, suffering from epithelial disease of the penis, of eight months' standing, involving a great part of the organ. The glands in the neighborhood being free from enlargement, Mr. Porter, on the 6th of October, removed the part by operation, following Ricord's recommendation of slitting the mucous membrane of the urethra in four places, and stitching each part to the skin. Numerous ligatures were applied, but severe hemorrhage commenced a few hours after the operation, and, refusing to yield to other treatment, it became necessary to pass three needles through the substance of the stump and employ acupressure. The needles and ligatures were removed in due time without further hemorrhage, and the wound is now in a fair way to heal.

ART. 209.—*Case of Colotomy in Cancer of the Rectum.*

By ROBERT B. CARTER, F.R.C.S.

(*London Hospital Reports*, vol. iv.; and *British and Foreign Med.-Chir. Review*, July.)

The patient in this case was a man, aged thirty-four, who had suffered for more than two years from disease of the rectum. The operation was performed on the 6th Nov. 1866, and he was so much relieved that he lived until the 11th of March, 1867, when he died from exhaustion. It is mentioned that the patient had been in the habit of taking a teaspoonful of powdered charcoal three times a day, under non-medical advice, for four months before the operation, but this circumstance turned out to be a great source of comfort to the patient and those about him, for the charcoal destroyed the odor of the contents of the bowel, and there was no fetor when the colon was opened. The operation was rendered painless by the use of the ether-spray, which accomplished all the objects that were expected from it.

ART. 210.—*Further Observations on Lumbar Colotomy for the Relief of Intractable Diseases of the Rectum, with four Cases of Operation.*

By W. CURLING, F.R.C.S., Consulting Surgeon to the London Hospital.

(*London Hospital Reports*, vol. iv.; and *British and Foreign Med.-Chir. Review*, July.)

This paper is a continuation of former communications made on the same subject by the author, and his object is to show that great relief from distress and pain, and in some instances even prolongation of life, have resulted from the operation. The first case was one of cancer of the rectum, and although

the patient died ten months after the operation, his sufferings were very materially relieved, and he recovered sufficient strength to be able to walk about until the disease advanced to its fatal stage. He obtained regular evacuations for a considerable time from the artificial anus. The next case was one of intractable stricture of the rectum in a farm laborer, and an artificial anus was established in the left loin by means of Mr. Curling's operation. The result was very satisfactory as far as the relief of the pain and other inconveniences was concerned, but the constitutional improvement was not so great as was to be desired, owing probably to the cachectic condition of the patient and his indigent circumstances. In the third case the patient was an unhealthy looking woman, in whom the indications for the operation were not favorable, and Mr. Curling performed it only at her own urgent request. It was followed by constant sickness, and death from exhaustion ensued in eight days afterwards. The fourth case was one of obstruction from carcinomatous stricture of the colon in a woman with deformed spine. The obstruction had lasted twelve days; the abdomen was greatly distended and tympanitic, and its walls were so thin that the course of the distended transverse colon could easily be distinguished. Mr. Curling concluded that the cause of the obstruction was stricture of the sigmoid flexure of the colon, and he proposed colotomy as the only measure likely to give relief. He accordingly performed the operation, which was followed by temporary relief, and the patient took food well for three days, when her strength gradually failed, and she died six days after the operation.

ART. 211.—*On Lumbar Colotomy, in special Reference to Cases of Vesico-intestinal Fistula.*[1]

By REGINALD HARRISON, F.R.C.S., Exam., Registrar and Lecturer on Descrip. and Surg. Anatomy, Liverpool Royal Infirmary School of Medicine.

(*Liverpool Medical and Surgical Reports*, October.)

The author gave a full account of the case of a lady in which he had been consulted, in whom a fistulous communication had been established between the bladder and the intestinal canal. Feces passed in the urine, the bladder was very irritable, and there was intense pain over it when flatus was passed. Micturition was very distressing. The patient was very emaciated and enfeebled. An examination was made with the endoscope, and an opening about the size of a sixpence was seen a little to the left side of the fundus of the bladder. It was considered to be non-malignant, and the author believed it was due to dysenteric inflammation, from which the patient had suffered long and severely. It was determined to perform lumbar colotomy, the advantages anticipated from the operation being—1st, the alleviation of the distressing pain from flatus entering the bladder; 2d, the contraction, if not complete closure, of the opening, if feces were prevented from passing through it. A full description of the operation was given. The difficulties likely to be met with were also alluded to—1st, delay in finding the gut, owing to its being in a contracted state; 2d, the peritoneum forming a distinct meso-colon, instead of being reflected over the front of the intestine. The patient experienced relief from the operation; but next morning became excited and tremulous, and afterwards fell into a state of syncope, from which she never rallied, and died about twenty-six hours after the operation. No post-mortem examination was permitted.

---

[1] Abstract of a paper read at a meeting of the Liverpool Medical Association.

(c) CONCERNING THE UPPER EXTREMITY.

ART. 212.—*Amputation of the Scapula, along with Two-thirds of the Clavicle and the Remains of the Arm.*

By PATRICK HERON WATSON, M.D., F.R.C.S. Edin.

(*Edinburgh Medical Journal*, August.)

Dr. Watson records the following interesting case: J. R., aged thirteen, engaged in a paper mill, had his left arm caught between two pinion wheels, and before the engine could be stopped he received a severe injury, for which he was admitted into the Royal Infirmary 27th March, 1869. Dr. Watson deemed it expedient to at once place the patient (the boy) under chloroform, for the purpose of investigating the extent of the injury. "After the removal of his clothes, the arm was found to have been nipped off at the insertion of the deltoid, at which point the brachial artery and the accompanying nerves hung loosely from the end of the stump, the artery pulsating up to almost its fusiform extremity. The whole of the deltoid region, the entire axilla, one-half of the pectoral region, and more than one-half of the clavicle and dorsum scapulæ, were exposed, as in a superficial dissection of the muscles and fascia, entirely denuded of all cutaneous covering. The skin corresponding to these bared parts hung behind like a rag, fenestrated with openings made by the teeth of the wheels. The aperture in the skin through which the remains of the arm protruded resembled the arm-hole of a vest, while the sound skin around this cutaneous aperture was so detached from its subjacent adhesions that the finger could be slipped beneath it for fully an inch all round. This detachment of the untorn skin diminished the likelihood of its retaining its vitality. To leave the stump of the arm as it was, was out of the question. To amputate at the shoulder-joint was to make things no better than they were. There was in fact no means by which a sound cicatrix could possibly be obtained, except by amputation of the scapula together with the clavicle of the arm. Having placed the patient deeply under the influence of chloroform, I proceeded to operate. The patient, in the first instance, was laid upon his side so as to expose the dorsal aspect of the scapula. With a short amputating knife I made an incision through the centre of the cutaneous opening as far as the posterior costa of the scapula, and with a sweep of the knife upwards and downwards, while the cutaneous flaps were held back, exposed the whole dorsum scapulæ. Laying hold of the bone by its inferior angles, a single incision severed a portion of the trapezius, the rhomboids, and the levator anguli scapulæ. The superior angle thus exposed was drawn downwards and outwards, and the remains of the trapezius, with the other soft attachments of the upper costa, were at once divided. The trunk and branches of the posterior scapular and supra-scapular arteries were now secured. Lastly, the serratus magnus was cut away from its insertion into the under surface of the vertebral costa of the scapula.

"The remaining vessels which bled were secured as before. The patient was now laid on his back, and the skin divided along the clavicle, from which the muscles were detached by slipping the point of the knife along the upper and lower margins. Dividing the clavicle with the saw, just external to the costo-clavicular ligaments, I cut through the pectoralis, major and minor, and clearing the axillary vessels, gave them to an assistant. And now, on laying hold of the scapula and arm, and drawing them outwards, a few touches of the knife enabled me to clear the remaining attachments of the bones above, so as to complete the separation with a single sweep of the blade towards the axilla. The axillary artery, the acromial and pectoral branches, were at once secured, and all bleeding ceased. There were upwards of twenty vessels tied in all, but certainly not more than two ounces of blood was lost during the operation. The ligatures employed had been previously prepared by soakage in a strong carbolic acid solution. The wound was now washed out with a similar but weaker solution of the acid in water (1 to 40). The horizontal incisions were united by wire sutures,

and the anterior and posterior margins of the oval opening were brought together with a strain, by means of six points of interrupted suture. The whole cutaneous surface was again completely cleansed with the carbolic acid lotion, and covered with a plaster composed of one part of carbolic acid to seven of the emplastrum saponis spread upon lint. This was laid so as to adhere smoothly and closely to the surfaee for six inches in every direction beyond the divided parts, to the complete exclusion of air. The patient was now conveyed to bed, laid among blankets, surrounded with hot-water bottles, and ordered champagne and brandy, together with beef-tea or milk, as circumstances might direct. These were to be given in small quantities, and frequently, so as to diminish the risk of vomiting.

"*Vespere.*—There has been a good deal of vomiting from the effect of the chloroform. There has been neither bleeding nor oozing, though there is obviously fluid contained beneath the plaster. The pulse at the wrist is 117. He is warm and comfortable. To have ice, and to continue the soup and wine."

The patient was dismissed cured on the 11th of June. He was "seventy-four days under treatment; but throughout the whole of that period had no symptom calculated to excite anxiety as to his ultimate recovery. For nearly three weeks the discharge was copious, and undoubtedly purulent, and the usual effect of this continued drain, in the form of emaciation and anæmia, was markedly observed. The carbolized dressings were employed carefully, and daily applied by myself or house-surgeon up to the 18th of April (twenty-two days), by which date the cutaneous flaps were adherent to the parts beneath. A large exposed granulating surface, corresponding to the axilla, remained, however, unhealed. It presented a weak and flabby appearance, which was apparently unaffected for good by the continuance of the carbolic acid application. During the whole of this period there was, however, no fetor arising from the discharge, which was excluded from the action of the air by being covered by the carbolic paste. Any of the secretion which escaped from beneath the paste, and soaked the nest of carded tow upon which the left side was supported when the patient was lying in bed, became more or less tainted in the intervals of twenty-four hours, between the periods at which the dressing and tow were removed. The secretion from the raw surface had at first the aspect of sticky mucus, like that secreted from the bronchi. I have observed this in every instance where carbolized non-absorbent dressings are employed. The examination of this mucus like secretion, by means of the microscope, has uniformly shown it to consist of pus-corpuscles in a clear granular fluid. I have observed very much the same appearance in the instance of sores which, through a misapprehension on the part of the patient, have been dressed with the gutta-percha or oil silk placed next to the skin, or where a cabbage-blade or docken leaf has been used as an application. In other cases, where the dressing has consisted of oil and carbolic acid, applied by means of lint, the carbolic acid has a transforming influence on the corpuscles, rendering them angular and shrivelled, while the globules of oil sometimes obscure the field in such a degree as to render the recognition of any corpuscular elements impossible, until ether has been added to effect their removal.

"I have employed carbolic dressing according to the strictest methods of antisepticism in a very large number of cases of operation, using it in this way in manipulations and incisions when its use was restricted by others to its application as a putty to the occlusion of chronic abscesses after incision. I have made the applications myself, renewing them day by day, and I have carefully watched the effect. I have had no bias in favor of this plan, nor have I been prejudiced against it. I have simply employed it because it made great promises, and I have no hesitation in saying that I have been completely disappointed in my expectations. I admit that my expectations were high pitched. I acknowledge I did expect to meet with union by the first intention." * *

Dr. Watson is not inclined to accord any credit to the antiseptic treatment as having in any way assisted in the satisfactory result; he fears that it delayed the cicatrization of the granulating surface.

Dr. Watson refers to the case of Dr. Stephen Rogers, and the tables given by him in the *American Journal of Medical Sciences* for October, 1868.

ART. 213.—*On the Mechanism and Insufficiency of Forcible Flexion of the Forearm upon the Arm as a Means of Hæmostasis.*

By M. LEON TRIPIER.

(*Gazette Hebdomadaire*, No. 18.)

It is supposed by Malgaigne that in forcible flexion of the forearm the brachial artery is no longer permeable by blood; he concludes thence that this is an excellent means of hæmostasis in cases of puncture of the brachial artery; at the bend of the elbow for example. This method was put to the test in 1832, and indicated in the "Manual of Operative Medicine." According to Malgaigne, the phenomena are due to flexion of the brachial artery itself.

Although not denying absolutely the fact of the flexion of the vessel, M. Tripier thinks that the arrest of the circulation ought to be attributed to muscular contraction.

In the first place, complete suppression of the radial pulse by forcible flexion of the forearm is seldom observed except in vigorous subjects. But it has been demonstrated that in these the biceps covers more or less the brachial artery, and may, consequently, compress it against the internal surface of the humerus, as, when it is powerfully contracted, its volume increases, and its natural tendency to cover the vessel is exaggerated. Moreover, when the brachialis anticus muscle, which in these subjects is also much developed, contracts, it pushes the artery against the biceps, and the antibrachial aponeurosis, which form a resistant surface. In weak subjects, and in females whose muscular system is not greatly developed, the surgeon cannot always succeed in arresting the flow of blood in the brachial artery by forcible flexion of the forearm upon the arm. It is necessary, besides, to explain what one is to understand by forcible flexion. A vigorous subject, whose forearm makes with the arm an angle of 120°, can, if he contract his biceps energetically, cause the pulsations of the radial artery to cease for some seconds; but when he is fatigued, the muscle becomes relaxed, and the pulsations of the artery return.

Could flexion be complete without the biceps muscle taking any part in the contraction, the radial pulse would persist. It is, however, almost impossible to bend the forearm completely upon the arm without muscular contraction being brought into play. It is just this point which escaped the notice of Malgaigne.

Finally, the following experiment, which has been repeated by M. Tripier a great number of times, cut short all objections: By flexing under chloroform, the forearm of a subject, however powerful he may be, in such a manner that the shoulder is embraced by the hand, one can never obtain complete cessation of the beatings of the arteries at the wrist. Here the exertion of forcible active flexion would not be suitable; it becomes necessary to use that of complete passive flexion.

Although many surgeons have applied this method of compression, M. Tripier is of opinion that it ought to be rejected, as it is applicable only for a time in certain patients, and exposes others, who certainly form a much greater number, to a secondary hemorrhage which may prove fatal.

ART. 214.—*Amputation of the Right Arm at the Shoulder-joint; with Excision of the Scapula.*

By VINCENT JACKSON, F.R.C.S., Surgeon to the South Staffordshire General Hospital, Wolverhampton; Fellow of the Royal Medical and Chirurgical Society.

(*British Medical Journal*, September 11.)

The following case is placed on record by Mr. Jackson:—

Samuel C——, aged thirty-five, was admitted into the Wolverhampton General Hospital in December, 1864. He was employed on the Great Western Railway as a

laborer; and whilst so employed was knocked down, being struck on the back by the buffer of an engine, the wheel of which passed over and crushed his right arm. As quickly as possible, I believe, he was conveyed to the hospital, but not before a considerable quantity of blood was lost. At half-past six in the evening, shortly after his admission, I saw the patient. He was an unusually well developed and strong man; his face was pale, but not blanched; the countenance expressive of suffering great pain. He was perfectly sensible, and anxious for something to be done to his arm. His habits were intemperate.

On a careful examination, it was ascertained that a compound comminuted fracture of the right arm and forearm existed, and also that the shoulder-blade was broken in more than one place, although the skin covering it was entire, but seemingly much contused. The chest and the other portions of the body were thoroughly examined, but no lesion was detected. A consultation of the surgical staff of the hospital was held, and it was determined to remove the limb at the shoulder-joint, and to deal with the scapula afterwards, as its condition might require. I as quickly as possible amputated the arm at the shoulder-joint; and, the vessels being secured, an examination with the finger induced me immediately to proceed to the removal of the scapula. It was extensively comminuted, and the muscles around it torn, bruised, in fact, almost pulpy; yet the skin, as previously mentioned, was entire. An incision was first made from the upper part of the flap behind to a little beyond the posterior border of the shoulder-blade in a transverse direction and on a level with the spine, and another at right angles to it along the whole extent of the same border. The flaps thus marked out were dissected back, the fractured portions carefully raised from below upwards by division of the muscular attachments, the edge of the knife being kept well upon the bones; the upper and the largest fragment, consisting of the spine and supraspinous fossa, was finally detached after the acromial process had been sawn through, a portion of it being left in attachment to the clavicle. Four vessels were ligatured, the precaution being taken to tie each artery immediately it was cut. The wound was dressed, after the edges had been approximated with wire sutures, with water-dressing. The patient was placed in bed, but he died the next morning, sinking apparently from exhaustion. The post-mortem examination revealed no further injuries than those detected during life.

ART. 215.—*Amputation of the Arm at the Shoulder-joint for Osteo-Myelitis. Death from Pyæmia.*

By J. FAYRER, M.D., C.S.I.

(*Medical Times and Gazette*, November 13.)

The following case is an exceedingly illustrative one, not only as to the disease in the bone, but of the pyæmic condition thereby induced. It shows how rapidly blood poisoning may result from osteo-myelitis, and how necessary it is that the surgeon should be constantly on the alert, to detect the earliest symptoms of constitutional mischief, lest the time for re-amputation may pass, and the patient be left in a hopeless condition, with lungs or other viscera disorganized, and beyond the reach of surgical aid.

"B. L. B., a Hindoo boy of nine years of age, was admitted on May 21, 1869, with a fracture of the radius and compound fracture and dislocation of the lower extremity of the right humerus. A portion of the articular surface of the humerus had been removed before admission, and the denuded and irregular extremity of the bone protruded from a lacerated wound in front and to the inner side of the joint. The lower end of the humerus was stripped of its periosteum for about an inch; but as the denuded bone looked pink and healthy, only the rough and irregular articular extremity was removed just above the condyles. The ulnar nerve was found stretched over the protruding bone, and was in a doubtful state of vitality. The brachial artery had escaped injury. The end of the bone having been removed, the fracture was reduced, and the wound was dressed, the arm being placed on an angular splint on the radial side of the limb. His friends stated that fever came on daily in the afternoon; but on admission he was free from fever. The edges of the wound were partially sloughing. It was dressed with petroleum, a substitute for carbolic acid that I have been using freely lately, and with very satisfactory results. Under

this dressing the wound soon cleaned. On the 23d water dressing was applied under the petroleum. He had also been taking salines when feverish, and quinine during the intervals. He was apparently doing well. On the 24th, in the morning, he had a rigor, and after it his temperature rose to 105°; this fell to 102° in the evening. Again on the 25th, at 1 A.M., he had another rigor. The temperature again rose to 105°, but at 7 A.M. he was quite free from fever, and the temperature had fallen to 98°. On the 26th he had another rigor followed by delirium, which lasted half an hour. The temperature rose to 103°. On the 27th he had another rigor at 4.30 A.M. Although the wound and the bone looked healthy, I felt satisfied that pyæmia was rapidly setting in, and I suspected the bone, notwithstanding its healthy appearance, might be the cause, and I regret that I did not act on that suspicion on the first rigor making its appearance.

"I amputated the arm on the 27th, at 9.30 A.M., at the upper third, prepared to remove it at the shoulder-joint if necessary. On dividing the humerus, that looked perfectly healthy, I found the medulla full of pus, which evidently extended to the head of the bone. I at once amputated at the shoulder-joint. He bore the double operation well, and lost very little blood. The fever gradually subsided by evening, the temperature falling from 103° to 98° at 5 P.M. The following morning he had a return of fever, but the temperature did not rise above 101°, the pulse remaining soft and weak He did not improve after this; the pulse continued rapid, the respiration hurried, and the temperature high (102° to 104°) until the 31st, when the temperature began to decline. He had no rigors after the operation, but he complained occasionally of a sense of chilliness. The tongue was generally coated and dry. The bowels acted freely, and diarrhœa set in on the 30th. The abdomen became tender and tympanitic, peritonitis evidently setting in. The respirations were quick and irregular, and on the 31st diarrhœa ceased. The kidneys acted well throughout. The urine contained no albumen and no phosphates, but a considerable quantity of bile pigment, and was slightly acid—sp. gr. 1010. He sank, with hurried respiration and all the symptoms of cardiac coagula and of complete exhaustion, on the 31st, at 4.30 P.M.

"The *post-mortem* examination took place sixteen hours after death. Thorax: Bloody serous effusion in the left pleura and pericardium. Firm fibrinous decolorized clots in right cavities of the heart. The left cavities contained some frothy black blood. The right pleura filled with a puriform fluid. There was a patch of dead lung of about one and a half inch square and an inch deep at base of left lung, and a number of smaller patches, varying from the size of a pea to a sixpence, scattered throughout the lung. These were of an ash or puriform color, surrounded by an areola of condensed and congested lung tissue, some suppurating, all, when cut into, giving exit to fetid sanies and puriform fluid. In some, when cut into, there was a dark nucleus. These are the so-called pyæmic abscesses, and are described as such by Dr. Braidwood and others. They certainly do present the appearance of an abscess in some cases, and when cut into, real pus as well as puriform fluid may exude. The true pus is that which is formed round the dead tissue in the centre when an effort is made to throw it off, just as in the case of the suppuration which takes place round the "core" of dead areolar tissue that gives rise to a boil. The pus is the result, not the cause, of the death of the lung tissue. These local deaths are found also frequently in the liver and other viscera, and to those who have had the opportunity of studying them in this climate it seems odd how they can be confounded with ordinary abscesses, as is still so frequently the case. The surface of the lung was adherent to the parietes by a yellow puriform shaggy-looking lymph. The right lung contained a few patches of dead tissue, but not so many as the left. The left axillary vein was not thickened; it was healthy from the spot where it had been divided. Peritonitis of a low form was incipient. The bone was examined on the 27th, directly after the amputation; a section was made from end to end of the pieces. The medulla was full of pus up to the line of the epiphysis, but there it stopped. Here and there, where the cancellated tissue had broken down, there were small collections of fetid

pus of the size of a split pea. The arrest of the suppuration was remarkably well shown at the line of the epiphysis. Part of the shaft was stripped of periosteum, but where it remained it was found to be thickened."

(D) CONCERNING THE LOWER EXTREMITY.

ART. 216.—*On Erectile Tumors of the Foot.*

By ALFRED POLAND, F.R.C.S., Surgeon to Guy's Hospital.

(*Guy's Hospital Reports*, vol. xiv.; and *British and Foreign Medico-Chir. Review*, October.)

A case occurred in Guy's Hospital under the care of Mr. Poland, in which there was an "erectile" or cavernous vascular tumor occupying the dorsum and sole of the foot in a young woman of nineteen. For this affection the dorsalis pedis artery and the posterior tibial were successively tied with only partial success, and on a return of the affection the anterior tibial was tied in its lower third with temporary relief; but eventually it was necessary to remove the leg, and the patient made a complete recovery. Mr. Poland appends to this case several others which he has found recorded, and which, though under different titles, he believes to be similar in character to his own. He regards the tumor in his patient as being a vascular, cavernous, erectile new growth developed in the vasa nasorum of the coats of the deep venæ comites in the sole of the foot, as well as of the communicating veins between the sole and the dorsum; these tumors and their contained spaces communicating directly with the veins, and subsequently receiving blood from the arteries.

ART. 217.—*Wounds of Joints.*

By THOMAS M. PARROTT, M.R.C.S.

(*The Lancet*, April 10.)

A healthy man, about thirty-five years of age, struck his right knee with great force against the edge of a scythe he was carrying. The joint was completely laid open, the limb being, in fact, semi-amputated. Having removed a large coagulum, Mr. Parrott brought the edges of the wound together by numerous sutures (common sewing needles), and covered the interspaces with strips of isinglass plaster. He then bandaged the entire limb and placed a long splint behind it. The wound healed rapidly, and six weeks afterwards the patient was able to walk. The only result of this accident was the slight limp, commonly seen in fracture of the patella, the lower portion of this bone having been cut through.

ART. 218.—*The Mechanism of Dislocation and Fracture of the Hip, with the Reduction of the Dislocations by the Flexion Method.—Philadelphia: Henry C. Lea*, 1868.

By HENRY J. BIGELOW, M.D.

The author commences by giving a short but complete abstract of the contents, which forms a valuable aid in the study of the book, and which we quote at length.

"1st. The anterior part of the capsule of the hip-joint is a triangular ligament of great strength, which, when well developed, exhibits an internal and external fasciculus, diverging like the branches of the inverted letter Y. It rises from the anterior inferior spinous process of the ilium, and is inserted into nearly the entire length of the anterior intertrochanteric line.

"2d. The Y ligament, the internal obturator muscle, and the capsule subjacent to it, are alone required to explain the usual phenomena of the regular luxations.

"3d. The regular dislocations are those in which one or both branches of the Y ligament are unbroken; and their signs are constant.

"4th. The irregular dislocations are those in which the Y ligament is wholly ruptured; and they offer no constant signs.

"5th. In the regular dislocations of the hip, the muscles are not essential to give position to the limb, nor desirable as aids in its reduction.

"6th. The Y ligament will alone effect reduction and explain its phenomena, a part of those connected with the dorsal dislocations excepted.

"7th. During the process of reduction, this ligament should be kept constantly in mind.

"8th. The rest of the capsule, except perhaps that portion beneath the internal obturator tendon, need not be considered in reduction, if the capsular orifice is large enough to admit the head of the femur easily.

"9th. If the capsular orifice is too small to allow easy reduction, it should be enlarged.

"10th. The capsular orifice may be enlarged at will, and with impunity, by circumduction of the flexed thigh.

"11th. Recent dislocations can be best reduced by manipulation.

"12th. The basis of this manipulation is flexion of the thigh.

"13th. This manipulation is efficient, because it relaxes the Y ligament, or because that ligament, when it remains tense, is a fixed point around which the head of the femur revolves near the socket.

"14th. The further manipulation of the flexed thigh may be either by traction or rotation.

"15th. The dorsal dislocation owes its inversion to the external branch of the Y ligament.

"16th. The so-called ischiatic dislocation owes nothing whatever of its character, or its difficulty of reduction by horizontal extension to the ischiatic notch.

"17th. 'The ischiatic dislocation' is better named '*dorsal below the tendon*,' and is easily reduced by manipulation.

"18th. The flexion of the thyroid and downward dislocations is due to the Y ligament, which, in the first, also everts the limb, until the trochanter rests upon the pelvis.

"19th. In the pubic dislocation, the range of the bone upon the pubes is limited by this ligament, which, in the sub-spinous dislocation also, binds the neck of the femur to the pelvis.

"20th. In the dorsal dislocation with eversion, the outer branch of the Y ligament is ruptured.

"21st. In the anterior oblique luxation, the head of the bone is hooked over the entire Y ligament, the limb being then necessarily oblique, everted, and a little flexed.

"22d. In the supra-spinous luxation, the head of the femur is equally hooked over the Y ligament, the external branch of which is broken. The limb may then remain extended.

"23d. In old luxations, the period during which reduction is possible is determined by the extent of the obliteration of the socket, the strength of the neck of the femur, and the absence of osseous excrescence.

"24th. Old luxations may possibly require the use of pulleys, in order by traction to avoid any danger which might result to the atrophied or degenerated neck of the bone from rotation.

"25th. Right-angled extension, the femur being flexed at a right angle with the pelvis, is more advantageous than that which has usually been employed.

"26th. To make such extension most effective, a special apparatus is required."

The latter part of the work treats of fractures of the neck of the femur. These are—

"1st. The terms intra- and extra-capsular, applied to these fractures, have little practical significance.

"2d. When a fracture near the head of the femur shows bony union, it is often impossible to say whether such a fracture was originally inside or outside of the capsular ligament.

"3d. These fractures are therefore better divided, for practical purposes, into, 1st. the impacted fracture of the neck into the trochanter; 2d, other fractures of the neck.

"4th. In this impacted fracture, the limb is everted, because the posterior cervical wall is almost always impacted, the anterior very rarely, and in a less degree.

"5th. These conditions mainly result from the relative thickness of the two walls.

"6th. While eversion is due to the rotation of the fractured bone on a hinge formed in the anterior cervical wall, shortening is generally due to the obliquity of this hinge.

"7th. In a well-formed bone, the posterior and thin surface of the neck of the femur is prolonged into the cancellous structure beneath the intertrochanteric ridge, and is the true neck.

"8th. The posterior intertrochanteric ridge is a buttress built upon the true neck, by which, when impacted, this ridge is sometimes split off."

Art. 219.—*On Puncture of the Knee-joint in the Treatment of Synovitis.*

By J. Fayrer, M.D.

(*Indian Medical Gazette*, June.)

Professor Fayrer, of Calcutta, in a communication to the above-named journal, reports five cases in which he resorted to this procedure with entire success. He remarks:—

The access of air to the opened synovial membrane is regarded as a great source of danger, as it is almost certain to set up irritation, followed by inflammation, which, passing into the suppurative stage, rapidly induces disorganization of the tissues that enter into the formation of the joint, and gives rise to constitutional disturbances, the precursor of surgical fever, which, if amputation be not performed, either wears out the patient by hectic and exhaustion, or destroys life more rapidly by the toxæmic changes due to osteomyelitis or other sources of pyæmia.

Notwithstanding the danger of opening the knee-joint, it has long been resorted to as a surgical operation for the removal of foreign bodies, such as loose cartilages, from its cavity; but the opening has been made in a valvular form, and with every precaution to exclude the air. It has, moreover, been found necessary to prepare the patient for this operation by rest and confinement to the bed or couch, for it has been observed that, when the operations were performed without taking these precautions, dangerous and even fatal inflammation has followed. Some surgeons, to avoid actually exposing the cavity of the joint to the chance of the entrance of air, have effected the removal of the cartilage by a double operation. The first fixing it by a subcutaneous incision to the parietes of the joint, the second performed after the first wound had healed, removing it altogether. In the so-called hydrops articuli of the knee, a form of chronic synovitis, the joint has been tapped like a hydrocele, and a solution of one part of tincture of iodine and four parts of water injected, with similar results to those with which the same method of treatment has been practised in hydrocele, the excitement of a moderate and modified form of inflammation, and the consequent absorption of the fluid.

The chief source of danger, however, appears to be the access of air, or, perhaps, according to more recent views, not so much the air itself as the organic germs that pervade the air, and that, if this can be avoided, the risk of destructive inflammatory change is much diminished. If such be the case, the use of carbolic acid, on the antiseptic principle, seems likely to be of service, and may render a wound of the knee-joint a less formidable accident than it has hitherto been considered.

That the method of treating effusions into the joints by paracentesis and the injection of iodine is a good one, we can understand from the analogy of hydrocele, and it is fortunate that this particular agent, iodine, seems to have com-

paratively little tendency, even when exciting severe inflammation, to cause suppuration. But still we cannot but feel that it is attended with great risk in the case of an important organ like the knee-joint, and as yet I have not ventured to test its merits. My experience, however, enables me to speak with confidence of simple paracentesis of the joint in the treatment of inflammation, and, as I believe it is capable of affording great and rapid relief from pain, as well as of expediting recovery, I have no hesitation in recommending it; but it must be borne in mind that the operation is to be performed with the greatest care, and that every precaution be taken to exclude the air.

In performing the operation, Professor Fayrer used a small trocar and canula, and made a valvular puncture.

ART. 220.—*Medicinal Treatment of Ulcers of the Legs.*

By CHRISTOPHER HEATH, F.R.C.S., Assist.-Surgeon, University College Hospital.

(*Practitioner*, August.)

Mr. Heath thinks that sufficient prominence has not been given to the value of internal remedies in the treatment of ulcers of the legs. The three drugs, he says, which he constantly "employs as adjuvants to the local treatment of ulcers of the leg are opium, iodide of potassium, and arsenic; and each has its appropriate class of cases. Mr. Skey has, on more than one occasion, directed the attention of the profession to the advantage of employing the first of these —opium—in the treatment of ulcers, and lays special stress upon the value of the drug in cases of chronic callous ulcer. I find opium of the greatest service, however, in the small irritable ulcer often found in combination with varicose veins, and also especially in any form of ulcer in which a sloughing action has supervened. I have had recently a case of tertiary ulcer in the leg making satisfactory progress, when it was suddenly attacked with violent sloughing action. This rapidly yielded, however, to the free administration of opium, combined with local poulticing.

"In iodide of potassium we have, I believe, a remedy most potent—I might almost say infallible—in all cases of ulcer dependent upon syphilitic taint, if given in appropriate doses. The tertiary syphilitic ulcer is in my experience a very common one, and may be recognized by the peculiar 'cachectic' appearance of the sore, the worm-eaten margins, the thin, profuse discharge, and the want of all healthy granulation at the base of the ulcer. These ulcers affect especially the upper part of the leg, are not usually combined with varicose veins, occur in comparatively young subjects, and frequently recur again and again, as is shown by the thin cicatrices seen in their neighborhood. The majority of these ulcers occur in women, and are traceable in most cases to infection from the husband, either directly, or, more often, indirectly through the *fœtus in utero*. In these cases there has often been no genital ulceration, no coppery eruption on the skin; but the patient gets out of health, has ulcers on the extremities, and very generally aborts if she becomes pregnant. A very small dose of the syphilitic poison is sufficient to produce these ulcers, and I believe, though the point is one difficult to be sure about, that congenital syphilis may show itself in this way in comparatively early life, *i.e.*, between puberty and twenty. At least I have had more than one patient under my care with ulcers of the leg which rapidly healed under anti-syphilitic treatment, who strongly denied any personal infection.

"In order to derive marked and immediate benefit from the iodide of potassium in these cases, the ordinary 3 and 5-grain doses are useless, and it is essential to begin with 10-grain doses thrice daily in combination with an alkali, and to push it, if necessary, to 15, 20, or even 30-grain doses, though these latter are seldom necessary. Local mercurial treatment, in the form of yellow or black wash, or the white precipitate ointment, appears to hasten the healing of these ulcers; and their recurrence is, I have no doubt, due to non-persistence in the internal treatment until the patient's health is thoroughly restored.

"Arsenic is an invaluable remedy in those common cases in which chronic eczema is a concomitant, if not the antecedent, of the ulcer of the leg. In those cases where the skin is irritable and inflamed, and the epidermis dry and scaly, local treatment may be varied without end, and a cure will not be produced; whereas, if arsenic be given internally, the leg will rapidly improve, and the ulcer healed under any simple stimulant. My experience does not corroborate the rule laid down by Mr. Hunt, of limiting the dose of the liquor arsenicalis to five minims thrice daily. After a careful and extended trial of the medicine administered in this way, I have come to the conclusion that in many cases to produce a cure it is necessary to increase the dose to ten or fifteen minims, and to maintain this high rate until the constitutional symptoms of the drug are produced. The same rule holds in the treatment of ulcers, lupoid or otherwise, on other parts of the body, but I will confine my remarks at present to ulcers of the lower extremity. I am careful always to administer arsenic upon a full stomach, and I find a remarkable tonic effect produced by its exhibition."

ART. 221.—*Some Points in Reference to Transverse Fractures of the Patella.*[1]

By JONATHAN HUTCHINSON, F.R.C.S.

(*Medical Times and Gazette*, September 18.)

The author commenced by stating that although his conclusions were expressed in a somewhat positive form and without the citation of cases, yet they were not the less based on the careful collation of a large body of clinical evidence. The chief statements were the following: 1. That after the ordinary transverse fractures of the patella, the upper fragment is not permanently dragged upon by the quadriceps; that, on the contrary, the muscle remains quite passive, and that there is not the slightest benefit from elevation of the limb. 1. That the main cause of separation between the fragments is swelling of the soft parts and effusion into the joint, and that when swelling does not occur, or after it has subsided, it is easy to make the fragments touch. 3. That one of the chief causes of the frequent weakness of the fibrous union which results is the presence of fluid (synovia) between the fragments, and that it is not usually difficult, by ordinary means, to bring the fragments quite close enough to admit of union, were it not that the presence of fluid hinders its occurrence. 4. That a remarkable weakening of the quadriceps muscle is a common result of these accidents, sometimes amounting to absolute atrophy. That this partial or complete paralysis cannot be explained merely by reference to long rest of the limb, since the flexors do not share it. That it occurs in some cases in which the union is excellent. 5. That in almost all cases the quadriceps becomes slightly but permanently shortened by contraction, so that, however excellent the union may be, the knee cannot be bent without risk of stretching the uniting medium. That the chief danger after union consists in allowing the patient to bend his knee, and thus drag the lower fragment downwards, there being little or none in allowing him to use the quadriceps as an extensor. 6. That patients with absolute paralysis of the quadriceps are yet able to walk fairly, and suffer no inconvenience whatever from contraction of its antagonists. 7. That "bony union" is probably an exceedingly rare event, whilst close fibrous union is easy of attainment; that it is quite impossible to distinguish between the two in the living patient, and further, that all statements as to "bony union" are worthless unless made on examination at least a year after the accident. That the atrophic weakening of the quadriceps explains in many cases the patient's lameness, and that its frequent occurrence tends to reduce the temptation to resort to certain heroic and dangerous methods of keeping the fragments in apposition.

---

[1] Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, June 22.

ART. 222.—*Fracture of the Patella; Treated by Malgaigne's Hooks.*

By JOHN MORGAN, F R.C.S.I., Surgeon to Mercer's Hospital, and to the Westmoreland Lock Hospital, Dublin, Professor of Surgical and Descriptive Anatomy, R.C S.I.

(*Medical Press and Circular*, September 22.)

The following details are of interest, as showing a very perfect recovery by Malgaigne's hooks:—

P. D., a racket-marker, when tipsy, fell and fractured the patella by direct violence, as, on admission into Mercer's Hospital, the trousers were broken opposite to the fracture, and the skin was abraded. There was a T fracture of the patella, the lower fragment being split vertically, and there was considerable swelling. The limb was placed temporarily in an elevated position, and the fragments retained tolerably in their place by bandages. On the day after Mr. Morgan applied Malgaigne's hooks, fixing them well into the fragments, and drew them together till complete apposition was attained; the leg was put in a moderately elevated position, and a cold lotion applied. From this date, to use the patient's own expression, he "never had five minutes' uneasiness," and at the end of six weeks the parts were examined carefully, when very perfect union was found to have taken place. The hooks were removed and plaister straps substituted, and he was allowed gradually to use the limb. He subsequently got an attack of bursitis, which lasted some weeks, and arose from his making too free.

The only inconvenience Mr. Morgan found was the pressure of the connecting bar between the hooks on the tumefied skin. This can be obviated by taking care that it is well elevated over the surface of the patella, and by inserting some wadding or lint.

The hooks were applied within forty-eight hours of the occurrence of the accident, and cold lotions were sedulously applied to reduce distension, and the subsequent attack of bursitis had no connection with their application.

ART. 223.—*Case of Dislocation of the Patella on its Vertical Axis Successfully Treated.*

By CAREY PEARCE COOMBS, M.B. London.

(*Medical Times and Gazette*, July 17.)

E. H., aged thirty, a strongly made country woman was sitting on a heap of hay with her legs slightly bent, and resting on the heels. A young man came and sat himself violently down on her extended legs, and caused her great pain in the left knee, where she felt something give way. When Dr. Coombs saw her, an hour or two after the accident, the leg was kept straight, and the least attempt to bend the knee gave her pain. There was a prominent ridge running vertically in front of the knee-joint, produced by the outer edge of the patella, which might be felt under the skin, the bone being firmly fixed in the fossa between the condyles.

Flexion of the leg was of no use in attempting to reduce the dislocation, so Dr. Coombs resorted to violent extension in this way—She was on a mattress on the floor, and Dr. Coombs knelt by her side on one knee, resting her left heel on his other knee. He then made strong pressure on the lower part of the thigh with one hand, while with the other he pulled the edge of the patella outwards, when the bone slipped at once into its place.

The case is recorded on account of the rarity of the accident and the failure of the method recommended for its cure. The crucial ligaments must have yielded to allow the leg to be extended beyond the straight line (if the expres-

sion is allowable), but they probably had been much strained in the accident. No swelling followed the injury, and on the third day the knee had recovered so far as to allow the patient to use it in walking.

ART. 224.—*Traumatic Varicose Femoral Aneurism successfully Treated by Ligature.*

By JAMES SPENCE, F.R.S., Professor of Surgery, University, Edinburgh.

(*Edinburgh Medical Journal*, July.)

The author relates a case of this which he thinks worthy of publication, as he can find no mention of any instance of traumatic varicose femoral aneurism which has been treated on the same principles, whilst the method of treatment generally recommended, and which has been hitherto almost invariably adopted in such aneurisms at the bend of the arm, seems to him to be inapplicable, or at least attended with grave risks in the case of the femoral.

The subject of the case was a youth fifteen years of age, slender form, tall for his age, and delicate appearance, whom Mr. Spence was called to see 26th March, 1868. He had, about three weeks previously, been stabbed with a spear-pointed knife by a schoolfellow. Dr. Miller, who first saw him, found him lying on two chairs very pale and faint, in consequence of profuse hemorrhage issuing from a wound in the upper and anterior aspect of the right thigh. "The wound, which extended obliquely upwards, was about three-quarters of an inch in length, and one inch and a half in depth. After stopping the hemorrhage and dressing the wound, I had him conveyed home in a cab. He progressed very favorably, and in ten days the wound had entirely healed, though the patient still continued weak. Perfect rest was still enjoined, but after a few days he could not be restrained from going out and walking about, though rendered lame by slight pain and stiffness of the tendons at the back of the limb, which, however, improved every day. He called on me on Monday, 23d inst., and stated that he had been to Leith on the previous Friday, that he had walked hurriedly home from the station, and for the first time felt 'a beating' in the part, but no pain. On examination, a little above the wound, I found a pulsation tumor, which I diagnosed as a false aneurism. He was ordered home, and enjoined perfect rest and quietness."

When examined by Mr. Spence he found on the right thigh, a cicatrix as of a punctured wound, situated on the outer border of the sartorius muscle, five inches and eight lines below the middle of Poupart's ligament. Extending from the puncture there was a pulsating swelling, not very prominent, somewhat flattened, of an elongated oval form, two and a half inches long by one and three-quarter inches broad. About two inches of the swelling were on the proximal side of the wound—*i. e.*, towards Poupart's ligament, and about half an inch on the distal side. Besides this distinct pulsating tumor, there was also an undefined fulness on the inside of the thigh, close up to Poupart's ligament, caused by the dilated femoral vein, and the upper part of internal saphena was also dilated. The aneurismal swelling at the wound was seen to pulsate, and the pulsation was very strong when the hand was placed on the tumor, and accompanied by a most peculiar thrill, almost startling, when first felt. On using the stethoscope, besides the "blowing" sound, there was also heard a loud buzzing or whizzing bruit, which has been not inaptly compared to the noise made by a "blue-bottle fly confined in a paper-bag." This latter sound was so loud as to be heard even at a little distance, and without the stethoscope. The thrill and whizzing murmur extended upwards from the wound both in the aneurismal tumor, and also in the dilated femoral vein as high nearly as Poupart's ligament, but they were much less distinct in the lower part of the aneurism—only barely appreciable. The pulsations of the anterior and posterior tibial arteries seemed rather weaker than in the sound leg. The patient felt the limb somewhat cold, but the thermometer showed no difference in the actual temperature.

I directed that he should be kept perfectly quiet in bed, with the thigh flexed on the pelvis, and that graduated compression should be maintained upon the

common femoral artery, at the brim of the pubes, where it emerges from the abdomen, by Carte's compressor, modified so that the pressure was made by means of a leaden weight instead of the full screw action. He was ordered to have a nutrient, non-stimulating diet, consisting of milk, with white of eggs, and farinaceous and a little animal food. Under this treatment the pulsations and bulk of the aneurism diminished, but I found that the compression, though as far as possible limited to the artery, interfered with the venous circulation, and gave rise to so much pain and swelling in the thigh, and irritation of the inguinal glands, that it was obliged to be abandoned. Ice was then applied, over the swelling and to the groin, and was beneficial in allaying the irritation resulting from the compression, but it had little effect on the aneurism; and I, therefore, determined to operate so soon as the local irritation was subdued.

I had from the first contemplated the probability of an operation being required, and had carefully weighed in my mind what method of procedure I should adopt, and had decided to tie the superficial femoral above and below the aneurism without opening the sac. Accordingly, on the 8th of April, 1868, assisted by Drs. Dunsmure, Gillespie, Littlejohn, Taylor, and Mr. Miller, I proceeded to perform the operation I had planned. The patient being put under the influence of chloroform, I made an incision seven and a half inches long, commencing about two inches below the middle of Poupart's ligament, and continued downwards in the course of the femoral artery. This incision passed over the long axis of the aneurism, and crossed the course of the sartorius muscle, so that I might reach the artery under the inner border of that muscle at the upper part, and under its outer margin at the lower part of the thigh. In making my incision I was careful to cut lightly over the tumor, so as not to divide more than the skin and fat. I next proceeded to clear the artery in the lower part of Scarpa's triangle. In doing so I found the parts more matted together and thickened, and the depth increased from the plastic and serous effusion to a much greater extent than the external appearances would have led me to expect. I required to take great care in clearing and drawing aside the inner edge of the sartorius, which, instead of being loosely connected as usual, was adherent. The sheath of the artery, however, was not so affected, and was readily recognized and carefully opened, and the artery cleared for passing the aneurism-needle. The vein, much distended, was felt bulging under the artery. The armed needle was then carefully passed round the vessel, the ligature left *untied*, and the ends held by an assistant. I next proceeded to tie the femoral below the aneurism in Hunter's canal. The fascia over the outer edge of the sartorius was freely divided, and the edge of the muscle cleared. Here a difficulty occurred, not from adhesion of the margin of the muscle at the part cleared, but owing to the body of the muscle over the aneurism being blended with the tumor, and forming part of the false sac. I found I could not turn over the muscle or draw it aside, so as to expose the aponeurosis covering the artery, without using such force as would have endangered breaking up the limitation of the aneurism. I had, however, foreseen this difficulty, and accordingly I divided about half the breadth of the sartorius, so as to expose and reach the vessel, which here lay very deep, the depth being increased by the proximity of the aneurismal tumor, as I wished to tie the artery as close to that as I could. When I had passed this ligature, I tied it firmly, and then proceeded to tie the upper ligature, which had also been applied as close as possible to the swelling. So soon as the upper ligature was tightened, all pulsation and sound ceased, and the appearance of tumor was almost effaced. The long wound was then closed by points of suture, a slip of dry lint placed over it, and retained by slips of adhesive plaster; the foot, leg, and knee were wrapped in cotton wadding, and the patient placed in bed, with the knee very slightly bent, and laid on its outside on a soft pillow.

When he recovered from the chloroform he was a little sick, and vomited. An opiate was administered. The milk and farinaceous diet was ordered to be continued. The patient progressed very favorably, and required little treatment, except medicine and enemata to act on the bowels, which were very constipated, so as to prevent straining at stool, and the wound healed well. No marked alteration in the temperature of the limb occurred after the first two

days. On the twelfth day after the operation, the lower ligature came away when I was dressing the wound, and without any appearance of blood. Slightly stimulating lotions were used to wash the points of the wound which had not cicatrized, and support was given by strips of adhesive plaster. On the 26th four drachms of blood came away from the incision after straining at stool. Dr. Dunsmure, who visited him, enjoined quiet, cold to the wound, and, as his tongue was loaded, ordered him blue and compound rhubarb pill; and consequently better diet, claret wine and iron. On the 11th May, Mr. S. found the patient looking very well, the wound healed, except at the ligature, which I found was lying loose, and therefore removed it. From this time nothing worthy of record occurred. He was allowed to walk, at first with a crutch, and subsequently to use the limb. He was lame for some time owing to the stiffness of the knee, but this gradually disappeared, and he now uses the leg perfectly. For some time after the operation I directed him to use a flannel roller to support the venous circulation in the limb. The cicatrix was narrow and firm; not the slightest pulsation or bruit to be felt or heard, no appreciable venous congestion, and his general health excellent.

To-day (10th June, 1869) I examined Mr. K——. As already stated, the aneurism is thoroughly cured; not the slightest pulsation or thrill can be felt; but the appearance of the limb indicates some obstruction or alteration in the venous circulation of the part. The right thigh is greater in circumference by one inch than the left. The swelling is neither tense nor œdematous, but soft and elastic. The cicatrix is thinner and broader than it was eight months ago; whilst towards the groins numerous small superficial veins are seen dilated and slightly tortuous; but the common femoral and great saphena veins which were distended and varicose before the operation, seem now of their normal size.

ART. 225.—*Case of Ununited Fracture of the Femur—Treatment by Walking and Exercise of the Limb.*

By DR. MIGNOT.

(*Gazette Hebdomadaire*, No. 35.)

On Sept. 23d, 1866, Gilbert Tarjaguet, a man-servant, aged twenty-six years, fell from a horse and was unable to get up without assistance. He was examined soon afterwards by Dr. Mignot, who found a transverse fracture of the right femur situated about two inches above the condyles. The limb was shortened and bent inwards. There was no wound nor excoriation of the integument. The fracture was reduced without difficulty, and the limb was fixed in Scultetus's apparatus. During the following three days the patient was restless and feverish, and complained of pain in the injured limb. The apparatus was removed for a time but soon replaced again, in consequence of a displacement of the fragments. On the eighth day the apparatus was again removed, and it was then found that the lower fragment had been carried behind at the inner side of the superior fragment. On the thirteenth day of the treatment a small wound appeared over the limb at the extremity of the superior fragment. This did not communicate with the fracture; in consequence, however, of the patient's anxiety, the apparatus had to be removed every third day, in order that the wound might be examined. At the sixtieth day there was no consolidation of the fracture.

After a consultation the limb was subjected to forcible manipulation and traction, and by this proceeding the fragments were brought exactly end to end. The leg was then at once put in a suitable apparatus for preventing return of the displacement.

At the end of the next month it was found that the condition of the limb had had not altered, consolidation had made no progress; the wound in the thigh had, on the other hand, increased, and the œdematous swelling of the leg also had increased.

Another attempt was made to keep the limb at perfect rest; but four months after the accident and fifty-seven days after the first consultation, the fragments

were still movable, and there were no signs of the formation of solid callus. The patient, however, was in very good health, with the appetite good and no restlessness, but still much discouraged. The injured limb was much infiltrated, as if affected with elephantiasis, and was of a violet color, the pus which flowed from the wound in the thigh was serous and sanguinolent; the whole limb, and chiefly the seat of fracture, was very painful.

Dr. Mignot attributed a portion of these symptoms to the too close confinement which has been kept up in order to maintain the fragments in position, and resolved to change the system of treatment and to attempt by removal of the constricting apparatus a modification of the vitality of all the tissues which were engorged more by a passive than by a plastic congestion. No amelioration followed, and the patient some twelve months after the accident was put under the care of Professor Fleury.

Various attempts were made by setons and other means to produce consolidation, but all without results. Professor Fleury finally proposed amputation of the limb, but recommended the patient to return to the country for a time in order to recruit his strength. Jarjaguet followed this advice, and went home to his wife in the commune of Saint-Germain. On his return in January, in 1868, he was almost in the same state as he had been in some eight months before; he was compelled to rest continually in bed and could not raise the fractured thigh from the horizontal plane; the limb was much engorged and completely extended, in consequence of anchylosis of the knee and also of the hip which prevented him from sitting down. Two wounds existed near the ununited fracture, and discharged some sero-sanguinolent pus. The appetite remained good and the nutritive functions had suffered but slightly.

In the month of May, 1868, the patient was again, at his own urgent request, admitted under the care of Dr. Mignot, and determined to follow out any plan of treatment rather than undergo amputation. A fresh examination of the fracture showed that the extremities of the fragments, though movable to a certain extent, were not separated very far from each other, and that in the position which they occupied reunion would be readily accomplished if ossification could be once established between them—that it would be sufficient, in fact, to excite the formation of callus for producing consolidation without changing their position. It seemed to Dr. Mignot that the chief indication consisted much less in keeping the fragments in contact than in exciting their adhesion by a vital modification of the parts destined to take part in the formation of a solid callus; so that it became necessary to discontinue keeping the limb in a state of immobility, which had hitherto produced only anchylosis of the joint.

Some few days after the admission of the patient, M. Mignot proposed to make him walk. A simple band of canvas cloth was placed round the seat of fracture, and the remainder of the limb was left bare; the patient was then supported by two strong men, and placed his feet upon the ground for the first time since the accident. The blood descended with violence into the right limb, which became bluish and cyanosed. The first attempt at locomotion was a very feeble one, and the patient, after making about ten steps, was compelled to take to his bed.

On the next and following days the same exercises were performed in Dr. Mignot's presence. One of the first results of the removal of the bandages was to hasten cicatrization of the wound of the thigh; at the end of a month the extremities of the fragment appeared swollen; this swelling insensibly acquired more consistence and an increase in extent; at the end of August it presented the solidity and appearance of osseous callus; the patient, at this epoch, walked in the ward of the hospital, supported only by two high crutches. In November the man could raise, entirely by muscular effort, the fractured limb above the level of the bed. The pain caused by this proceeding was due chiefly to anchylosis of the corresponding hip. The œdema of the limb had sensibly diminished, and the old epidermis was replaced by a fresh layer.

In the month of January, 1869, the fracture was completely consolidated, with very slightly marked shortening. With the aid of a crutch, the patient would take a walk, and could mount and descend the stairs. The only impedi-

ment to these exercises proceeded from the rigidity of the limb caused by anchylosis of the knee and stiffness of the hip-joint.

Since his discharge from the hospital, the patient has recovered still more confidence in his walking and the different actions in which he is employed, but he has not yet been able to give up entirely the use of the crutch. The limb is not swollen, and the patient does not suffer from it. The tibio-femoral articulation now permits a slight degree of flexion; if this movement should become extended, as one may hope will occur with time and the action of mineral waters, every trace of the unfortunate accident will have disappeared.

Remarks.—Dr. Mignot begs to present, as a novel and, in many instances, an applicable method, this plan of curing pseudarthrosis by the same means as have been charged with producing, under certain circumstances, the same kind of lesions. The exercise of non-consolidated limb, condemned for eighteen months to complete immobility, resulted in the production of a salutary irritation around the extremities of the osseous fragments, which previously touched each other without any attempt at reunion. It is by taking account of the causes of this default of union that Dr. Mignot has been led to renounce immobility of the affected limb as a principal or accessory measure in all the cures of pseudarthrosis, and to adopt an entirely opposite proceeding, viz., exercise of the limb. He, in reality, and by an indirect path, arrived at the result which is sought for when the practitioner employs flying blisters, or cauterization, or the seton, in order to remove the local atony which prevents the formation of an osseous callus. M. Mignot arrived at this by two ways—1st, by suspending the method of treatment likely to favor this local atony, that is to say, removing the compressing bandages; 2d, by exciting directly the circulation of the whole limb, particularly at the seat of fracture, by exercise and movement—powerful means, which might have overshot their mark if Dr. Mignot had not watched their application.

This method, of which no use had hitherto been made by the masters of surgery, is recommended, not on theoretical grounds alone Dr. Mignot is acquainted with some instances in which poor peasants, the subjects of non-consolidated fracture of the thigh, had, nevertheless, attempted to take to their work, and at length had recovered the solidity of the limb, although remaining lame, in consequence, no doubt, of the formation of faulty callus. The successes of empiricism have always a scientific explanation, and from an experimental lesson which one may take advantage of by taking care to correct the gross errors. It was not difficult to Dr. Mignot to comprehend the sense of the cases just alluded to, and to make an application of it to the case he had to treat; and he felt justified in hoping that by the pursuance of certain precautions, consolidation would be obtained without deformity of callus and the inconveniences which thence result; a perspective preferable to that of dangers resulting from such operations as resection of the osseous fragments, their perforation by pins or setons, and finally to the proceeding of amputation.

Success, M. Mignot states, has justified the attempt, in which he was guided by a rational method, and which should be recommended in like circumstances. It is evidently not suited to all cases of ununited fracture, but to those only where the default of consolidation is due to local atony. Its employment necessitates careful direction, as it may sometimes lead to serious consequences. It enters into the category of measures acceptable to conservative surgery. If one desires to know what is sometimes the cost of its success, it will suffice to read the clinical history of M. Mignot's patient, in order to see that it cannot be obtained without much time and much perseverance.

ART. 226.—*On the Diseased Elongation of the Bones of the Extremities in relation to Surgical Practice.*

By Professor LANGENBECK.

(*Berlin. klinische Wochenschrift*, June 28; and *British and Foreign Med-Chir. Review*, October.)

Professor Langenbeck, in a recent paper read to the Berlin Medical Society, draws attention to a consequence of disease of bone first noticed by Stanley, and further demonstrated by Paget. He observes, that until the twenty-third or twenty-fifth year, the bones may, under the influence of general disturbances of nutrition or local disease, undergo greater variation in form and size than the soft parts. In the rickety subject defective length is a more characteristic sign than either the curvature or the chemical condition of the bones. The influence of paralysis in checking the growth of bone requires more investigation, for while in some cases this is found to be imperceptible, in others it is very considerable. Affections of the epiphyses and of the joints will naturally give rise to considerable shortening, and all the bones of the same extremity may participate in this on account of the forced inactivity. The same effect is also observed when the joint itself is not diseased, but kept in a state of forced contraction; but here probably the result is a mechanical one produced by the altered mode in which the deposit of new bone is made. How small a power need be exerted to produce this effect is seen in the fact, that when fingers are united together, but are yet able to perform all their principal functions, their bones, if the web be not promptly divided, will remain shortened. In a still greater degree the same effect is exerted by cicatrices from burns in the neighborhood of joints.

It is, however, to abnormal elongation of the bones that attention is chiefly directed in this paper. This may easily take place to the extent of one or two centimetres, or more, without detection, unless careful admeasurments be made. A long bone, as a general rule, grows longer and thicker in proportion as it has been in an inflamed or hyperæmic condition, and a hyperæmic condition of the soft parts is also competent to produce this change. Thus, in a case of inguinal aneurism, Broca found that the femur had increased two, and the tibia one centimetre in length. Ulcers of the leg occurring early in life produce the same effect; and although chronic inflammation and caries of joints exceptionally arrest the growth of bone, in other cases they lead to its elongation. The great majority of cases of increased growth, however, arise from chronic disease of the diaphysis of the bone, *i.e.*, osteomyelitis or necrosis.

A very interesting case is given in which careful admeasurements were made at the autopsy, and all the bones on the diseased side were found considerably longer. A remarkable appearance noted was the diminution of the circumference of the upper articular surface of the tibia by one, and of the lower surface by half a centimetre. This may be attributed to the fact of the greater longitudinal development of the diaphysis having taken place at the expense of the epiphysis. In the arrested growth of the rickety bone, on the contrary, the circumference of the articular surface is increased. The fibula, in the above case, although not diseased, had increased by two centimetres in length, like the tibia. Another important point was, that the femur of the same side also underwent considerable elongation, for while the tibia was found to have increased by two centimetres, the whole limb, measured carefully during life, was found to be five centimetres longer than the other. Similar observations are reported by Paget and Bergmann; and Langenbeck has met with the same circumstances in the upper extremities.

Bearing the above facts in mind, it occurred to Professor Langenbeck whether they might not have their surgical application in the treatment of shortening of the bones of the extremities. As necrosis occurring in young subjects is the most frequent cause of abnormal elongation of bone, and is probably due to the abiding stimulus of the sequestrum, it might be expected

that the insertion of a foreign body in the bone would be attended by a similar result. He therefore instituted some experiments in young dogs, employing Dieffenbach's ivory pegs as having a near resemblance to bone structure. These were followed by most favorable results, the effects being in fact just the same as those observed in necrosis, viz., an elongation and thickening of the shaft, and a lessening of the epiphysis. Moreover, the bone remained undistinguishable in any other respect from normal bone, being neither inflamed nor in any way diseased. So the matter stands at present, for although Professor Langenbeck believes that surgical interference will be advantageously employed in this direction, he has not yet resorted to it. He observes, that while a few centimetres shortening is of little consequence as regards the upper extremity, it is of serious import in the lower, and any reasonable means of removing it or diminishing it should be employed. Excision of the joints in children will acquire an additional importance also, if we are enabled by the introduction of one or two of the pegs immediately after the operation to prevent the arrest of growth in the limb. Subjects suffering from paralysis are favorable for the trial of the means, as they will with less difficulty sacrifice the five or six months necessary to be passed in quietude to secure the success of the experiment. One of the most important results of the trials made on dogs is the demonstration of the efficacy of extension in elongating the bone. The fibula, to which nothing had been done, was found to have increased two centimetres as well as the tibia, and yet to have undergone no displacement. This was effected by the stretching effect exerted upon it by the tibia, to which it had become united in one bony mass. Of the possibility by suitable extension of increasing the length of shortened bones, there can be no doubt, although the determination of the amount of this by admeasurement is very difficult.

ART. 227.—*A Case in which Aneurisms of the two Popliteal Arteries were cured by Digital Pressure, the one in twenty-four hours by Students, the other in four hours and a half by the Patient; with Remarks.*

By THOMAS BRYANT, F.R.C.S.

(*Guy's Hospital Reports*, vol. xiv.; and *British and Foreign Medico-Chirurgical Review*, October.)

The title of this paper explains its chief features. The patient was a policeman, who was cured of an aneurism of the left leg by the means described, and after he had left the hospital and had resumed his duty, he became the subject of another aneurism in his right leg. As he had gained experience in the hospital by observing the means taken to cure the former aneurism, he determined to try the same means himself, and by alternately pressing with his right and left hand for four hours and a half, he succeeded in effecting a second cure. Mr. Bryant remarks that digital pressure, when well applied, is better than instrumental; but what is wanted in the former case is steady, equal pressure, made by persons well acquainted with anatomy, and who press only the artery itself, and not the surrounding vessels and nerves. He thinks that three men might readily take charge of such a case for four hours and a half without fatigue.

ART. 228.—*On a Case of Popliteal Aneurism.*

By JAMES F. WEST, F.R.C.S. (Exam.), Senior Surgeon to the Queen's Hospital, Birmingham.

(*The Lancet*, July 17.)

From the notes of this case, it appears that low diet, rest, digitalis in full doses, the application of ice, the administration of acetate of lead, flexion, instrumental compression, and, lastly, digital compression, were each in succes-

sion employed without producing any permanent benefit; and that at last, after the failure of these various measures, each of which has its advocates, and has been known to prove highly successful, the Hunterian operation, or ligature of the femoral artery some distance above the seat of the aneurism, was had recourse to, and sufficed to effect a cure.

One caution Mr. West gives in reference to treatment after the operation. It is that we should not be too anxious for the ligature to come away, and therefore that we are not to be pulling at it day after day, as he has seen done, to ascertain if it is ready to come away. In the case recorded it did not separate till the twenty-fourth day, and then it was discharged without any traction being made upon it.

PART III.—MIDWIFERY.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

(A) CONCERNING PREGNANCY AND PARTURITION.

ART. 229.—*Anatomico-Physiological and Practical Considerations on Pregnancy and Delivery.*

By Dr. MARTINELLI, of Batignolles.

(*Gazette Hebdomadaire*, No. 35.)

The following report on Dr. Martinelli's researches was presented to the Académie de Médecine by Dr. Devilliers.

Dr. Martinelli in his contribution was chiefly interested in the part taken by the pelvic symphyses and by the accessory muscles in the mechanism of delivery. He thinks that the fibrous tissue of the symphyses undergoes a transitory modification, and that, in great part, it is converted into elastoid tissue, a new condition which permits a feeble degree of mobility. The articulations thus constituted may undergo a certain diduction under the influence of the action of the pelvic, abdominal, and crural muscles.

Dr. Martinelli distinguishes the abdominal muscles of the pelvis, which are the anterior recti muscles of the abdomen thrown a little to each side by the extension of the linea alba, the external and internal oblique muscles, and the transversales, the lower part of which in contraction excites an action upwards, forwards, and outwards upon the pubis on each side. The central portions of these muscles concur in the extension of the linea alba. The superior portions in combining with the diaphragm depress from above downwards the convexity of the abdomen and cause it to project more in the umbilical region, in such a manner as to act fully the office of a pulley, upon which the contractions of the inferior fibres bear in bringing about a diduction of each os pubis.

During the movements of abduction and elevation of the abdominal muscles, the posterior spinal muscles increase by their contraction the sacro-vertebral projection and tend to carry the pubis backwards and downwards; whence the two movements in an inverse sense, producing a lesion at the level of the sacro-iliac articulation. The tension of the ligaments, which is the consequence of this action, explains the pains in the lumbar region, which may be relieved by elevating the sacral region and relaxing the spinal muscles.

The femoral abductors of the pubis, the pectineus muscle, and the abductors of the thigh, exert a very efficacious action, especially when labor is difficult. They associate their action with that of the abdominal abductors, and it is to them that it is necessary to refer the ruptures of pubic ligament that have been mentioned by authors. This second series of muscles replaces the abdominal abductors when the head of the fœtus is engaged in the excavation of the pelvis. The action of the femoral abductors of the pubis is increased by causing the woman to make efforts of adduction of the thighs, at the same time that the lower limbs are kept separated.

To the action of the above-mentioned muscles must be added that of the reflected portion of the psoas and iliacus, which by its action outwards and backwards, concurs in the accommodation of the pelvis for the passage of the fœtus.

ART. 230.—*On the Recognition before Birth of the Situation of the Placenta.*

By Dr. PFEIFFER.

(*Monatsschrift für Geburtskunde*, XXX., p. 112; *Schmidt's Jahrbücher*, No. 6.)

Dr. Pfeiffer believes that he has often succeeded in feeling the placenta by palpation through the abdominal walls before birth, and consequently in recognizing the position of this organ. For this purpose it is of course a necessary condition that the placenta be seated on the anterior wall of the uterus; it is felt much less readily when it is placed at the fundus, and with very great difficulty, and frequently not at all, when it occupies the lower segment. Emaciated abdominal walls with a thin uterine wall, and also a great thickness and distension of the placenta, favor its discovery; sometimes labor-pains, but generally a state of rest, are most favorable. Under these conditions one can feel, on firm pressure over the abdomen with one or both flattened hands, a small segment of a ball, apparently placed upon a larger sphere, and of a peculiar firm and elastic consistence, which is distinct from the rest of the uterus where the fœtus can be felt, and corresponds in its consistence to a spongy body fitted with circulating blood. This is the placenta.

ART. 231.—*The Oxalate of Cerium in the Vomiting of Pregnancy.*

By J. WARING CURRAN, L.K. and Q.C.P.I., L.R.C.S.I., &c.

(*Medical Press and Circular*, July 14.)

The object of the present paper is to bring more prominently forward the valuable therapeutic action of the oxalate of cerium in controlling the distressing nausea of pregnancy. Mr. Curran administers it in the form of pills as follows:—

℞.—Ceri oxal.
Ext. lupuli, āā gr. 24.
Div. in pil. xij, cap. j ter in die;

and at the same time exhibits bromide of potass in ten grain doses with the tincture of yellow cinchona bark and spirits of ammonia. The mixture and pills appear to constitute a most successful plan of treatment.

ART. 232.—*Electricity in Parturition.*

By M. DE ST. GERMAIN.

(*Medical Times and Gazette*, November 18.)

M. de St. Germain, at the last meeting of the Société de Chirurgie, communicated the results of some experiments he has recently made at the Maternité on the application of electricity in labor. Engaged to write an article for the "Dictionnaire de Médecine" on the surgical and obstetrical applications of electricity, and believing that little had been done in illustration of the latter, he undertook an investigation himself. Although this had been pursued in only twelve cases, he found the action of the electrical current was so marked as to lead to what he believed some novel conclusions. He was informed afterwards, however, of the researches of Barnes and Radford in this direction in 1854, and of the favorable opinion they entertained of the agent. His own conclusions are as follows:—

"1. In no case have uterine contractions been induced where they have not already spontaneously commenced. This explains the discredit into which the electrical current has fallen as a means of inducing premature labor.

"2. Wherever labor-pains have commenced, occurring at intervals of fifteen

or twenty minutes, on the application of the conductors to the lateral parts of the abdomen, we have *constantly* found, and that in about ten minutes, a remarkable increase of the uterine contractions.

"3. We have also found that contractions so induced are much more prolonged and more painful than others.

"4. The dilatation of the os uteri has constantly taken place with rapidity.

"5. A fact to be particularly insisted upon, especially as it is not noticed by Barnes and Radford, is that the expulsion of the placenta immediately follows that of the infant, being either spontaneously projected beyond the vulva or capable of removal without the slightest traction.

"6. In two cases only the infant exhibited a slight bluish color, but in these the cyanosis could be explained by constriction.

"7. To sum up, without partaking of the enthusiasm exhibited by Barnes for the application of electricity in delivery at full term, we believe that this method deserves being submitted to a prolonged and severe investigation, and that, if new and numerous trials confirm the results thus far obtained, the application of electricity as an agent in the rapid expulsion of the placenta must be considered as a gain."

ART. 233.—*The Pain of Parturition and Anæsthetics in Obstetric Practice.*

By A. E. SANSOM, M.D.

(*Transactions of the Obstetrical Society of London*, vol. x.)

Dr. Sansom maintains that experience shows that chloroform properly administered to annul the pain of natural labor, is absolutely free from danger to life. He also insists that the action of chloroform and the other anæsthetics is primarily upon the nerves of sensation and not upon those of motion; and, further, that to relieve the pains of natural labor only, small doses and the early influences of an anæsthetic are necessary, which conditions can be fulfilled without depression, but with rather an exaltation of the forces of the circulation. Chloroform, administered according to definite principles, and in a careful manner, Dr. Sansom believes to be the best of all anæsthetics in midwifery practice. Concerning it, he believes the following points to be determined: 1. That small doses, and the early stages of its influence are necessary. 2. That administered in this mode, and to this extent, it is innocuous, and even exalts circulating power. 3. Large doses are quite unnecessary for the fulfilment of the conditions of obstetric anæsthesia. And—4. Large doses, and particularly large proportions are dangerous, by producing paralysis of the circulation. Dr. Sansom thinks that it is incumbent on the practitioner to dilute the chloroform which he exhibits. This dilution may be effected by air by means of a proper instrument. By volatile media, as in Mr. Ellis's plan; by the use of anæsthetic mixtures, which act partly by the dilution with the vapor of the anæsthetic commingled, and partly by retardation of evaporation.

Dr. Sansom feels himself assured by many experiments on the following points: 1. That the best anæsthetic mixture is one of chloroform and absolute alcohol. 2. That the principal value of the alcohol is to retard too rapid evaporation of the chloroform. 3. That by means of this mixture the regulation of the atmosphere inhaled is effected with sufficient precision for all practical purposes. 4. That the anæsthetic mixture to be recommended in obstetric practice should consist of one part of chloroform to two of absolute alcohol.

Art. 234.—*New Method of Embryotomy.*

By Robert Barnes, M.D., F.R.C.P., Obstet. Phys. and Lect. on Midw. and Diseases of Women and Children, St. Thomas's Hospital.

(*Medical Times and Gazette*, June 19.)

Dr. Barnes described and demonstrated before the Obstetrical Society of London (June 2, 1859), a new method of embryotomy, by which a mature fœtus could be extracted through a pelvis measuring not more than an inch in the conjugate diameter. He observed that the rule of conduct justifying embryotomy was the same in extreme cases of deformity as in slighter cases. In the case of a pelvis contracted to three inches in the conjugate diameter it was justified by the presumption that by it the mother was saved from danger. So, in the case of contraction to two inches or one inch, it was on the same principle justifiable. The difficulty was to carry out the proceeding with reasonable safety to the mother. He had long felt that if the problem how to extract a mature fœtus through a pelvis narrowed to one inch without injuring the passages were put to any of our great engineers, a solution would be found. He felt that the problem ought to be solved, so that the Cæsarian section, if not eliminated, might at any rate be still further restricted. Van Huevel's forceps-saw cut up the child's head by making a chain-saw travel up from the shanks of the forceps blades. But in extreme distortion there was not room for the blades to pass. His (Dr. Barnes's) operation consisted in passing a loop of strong steel wire over the head by means of Weiss' écraseur, and then making sections. Dr. Barnes showed the operation. He regretted that a pelvis having nearly two inches in diameter had been sent instead of one with only an inch, and that he had only been able to procure a seven months' fœtus; but the operation was quite feasible under the conditions he had stated. Dr. Barnes first perforated the head, then introduced the crotchet to steady it, then passed the wire loop into the uterus, which could be done by compressing it; and when the loop is sufficiently high, by removing the compression it opened by its elasticity, and was made to seize the head in its circumference at the occipital end. Then, by working the screw, the wire made a clean section of the head, taking off all the posterior part; this part was then removed by craniotomy forceps. Then the wire was reapplied in the longitudinal direction of the head, seizing under the jaw and ear, and another section made through the base of the skull. This was commonly enough. The remains of the head were then seized by Dr. Barnes's craniotomy forceps, and easily drawn through the pelvis. Then there was the body, often opposing great difficulty. This he overcame by perforating the chest, by hooking the crotchet in the axilla of one arm to draw it down within reach of the embryotomy scissors to cut off; then the chest walls were cut up by the embryotomy scissors and drawn through the pelvis, either cutting off the other arm previously or not. The operation had this great advantage over the old crotchet and craniotomy forceps operations—that it involved little or no pressure or contusion, or dragging upon the uterus or other soft parts. The wire buried itself immediately in the head, and no bulky instruments or manœuvres bruising the soft parts were necessary. In answers to Dr. Tyler Smith, Dr. Barnes said he had not yet performed the operation on the living subject.

Art. 235.—*Uterine Hemorrhage after Labor.*

By Robert Barnes, M.D., F.R.C.P.

(*The Lancet*, December 11.)

At a meeting of the Obstetrical Society of London, held Nov. 3d, Dr. Barnes read a paper on *Uterine Hemorrhage after Labor.*

The author endeavored to define the conditions upon which arrest of hemorrhage after labor depended, the action of the remedies in common use, and the

indications for resort to particular remedies. The remedies almost exclusively used depended for their efficacy upon their power of exciting contraction of the uterus: this presupposed nerve force enough to respond to excitation; but when this was exhausted, remedies failed. It became then necessary to seek a new power that would act under the condition of exhausted contractility. This was found in styptics like perchloride of iron, which acted by coagulating the blood in the mouths of the open vessels, and corrugating the inner surface of the uterus. Acting exactly when ordinary means failed, it was a new power to save women from dying of hemorrhage. Examining the action of ergot, compression of the uterus, and cold, he urged that these should not be trusted if they failed to act quickly; for if they so failed it was probably because contractility was gone. If persevered in beyond this point they did harm. Ergot and cold added to the depression; kneading might bruise the uterus; all were apt to occasion some form of puerperal fever. The perchloride had in several cases been followed by death, when used for injecting nævi; but this case was essentially different from that of injecting the uterus. In his own practice he had observed three orders of cases. In the first all recovered well, the hemorrhage being immediately stopped; in some of these death would almost certainly have ensued but for the remedy. In the second series recovery occurred, phlegmasia dolens supervening; but phlegmasia dolens was not unusual after severe hemorrhage, and some of these cases would have died but for the remedy. In the third, death followed, but the patients were moribund when the remedy was applied; it came too late: here the remedy was transfusion. The practical lesson resulting from a review of these cases was to observe the rule he had laid down, not to persist too long in the use of cold, kneading, and other remedies, but to resort to the perchloride before collapse had set in. Dr. Barnes showed a convenient case constructed by Krohne and Sesemann, containing a set of his dilators, a Higginson's syringe with uterine tube, and a bottle for perchloride of iron.

Dr. Rogers could most cordially agree with every word of Dr. Barnes's admirable paper. He (Dr. Rogers) had first used the perchloride some fifteen years ago in post-partum hemorrhage, having failed with a strong solution of alum. He had since then employed it five or six times, and in every case successfully. He thought Dr. Barnes had omitted the mention of galvanism, on which he placed some reliance, and which had been advocated by his late friend, Dr. Mackenzie.

Dr. Cleveland thought one of the difficulties in the treatment of post-partum hemorrhage consisted in determining when the means in general use should give way to the remedy recommended by the author. It was difficult, too, when single-handed, to leave the patient for ever so short a time to prepare an injection. He had himself used an 8-oz. India-rubber bottle, to which was easily attached a flexible male catheter. This could be used more readily than a Higginson's syringe, and with less risk of injecting air. He would inquire if the author had used emetics, as he had himself witnessed the good effect of vomiting on more than one occasion. He would also ask if the free use of stimulants, especially at the commencement of flooding, was not open to objection.

Dr. Wynn Williams was hardly prepared to hear that the knowledge of perchloride of iron, as a styptic in these cases, was as limited as the author supposed. He himself had used it for a long time, although not exactly in the same manner as the author of the paper, but in a way which he might call the ready method. This consisted in taking a sponge, on which some of the tincture of the perchloride had been poured, and passing it into the uterus through the hollow of the hand already introduced, after of course previously emptying the uterus of clots, and then sponging the interior of the uterus with it, leaving it in the uterus if seen fit, with a string attached. He thought this plan less objectionable than injecting a considerable quantity of fluid. The stains on the hands of the operator were readily removed by a solution of oxalic acid, or salts of lemon.

Dr. Braxton Hicks most cordially agreed with the whole paper. He wished to add, however, a few remarks. In the first place, he thought there was a considerable difference in different cases as to the condition of the interal surface of the

uterus after the expulsion of the placenta. In some uteri examined after death, the large apertures of the sinuses described by many authors were absent. There were, of course, the arterial openings, and those of their return veins, of considerable size certainly, but not very large. In others, it would be found that the sinuses, in their oblique passage through the uterine walls, occasionally abutted on the line of separation of the placenta decidua. When the placenta was removed, then the feeble wall gave way, and severe loss would result, unless the uterus contracted quite firmly. In the former case it did not require that severe uterine contraction, and the perchloride would readily act. In the latter it would probably be found that even the perchloride would fail to arrest this great stream. Enormous gushes he believed to be the result of a pre-accumulation which had been going on unobserved. To one class of cases Dr. Barnes had not alluded—*viz.*, placenta prævia, where the cervical zone was relaxed after delivery. In these, the perchloride applied to the surface was of much value. In severe cases of abortion, also, when the uterus had been emptied, he had used it frequently with complete success, and without any untoward result. He used a somewhat weaker solution than Dr. Barnes.

Dr. Hall Davis could add his testimony to the value of the iron solutions. He had used them for several years among his hospital patients; scarcely a week passed without his resorting to them. He had used the pernitrate, the persulphate, and the perchloride, and had found them about equally efficacious. It was of the utmost importance, before using them, to empty the uterus of any contained clots, that the styptic might fairly come into contact with its internal surface.

Dr. Playfair referred to the importance of aiming at the prevention of post-partum hemorrhage, and urged the careful following down of the contracting uterus with the hand. On the subject of the value of the perchloride, he could but add his testimony to that of the previous speakers.

Dr. Tyler Smith, after eulogizing the paper of Dr. Barnes, said that he believed that few cases of dangerous flooding would occur if in all cases a full dose of ergot were given immediately after the birth of the child. It would, in his opinion, be a vast improvement in obstetrics if the forceps could be substituted for ergot, as now often given during labor; and if the ergot were administered habitually at the moment of birth, or while the head was passing the vulva. Besides the prevention of hemorrhage, subinvolution of the uterus would become less frequent. This rule of giving ergot had been extensively followed, by his advice, and with the best results, in India, where flooding was still more common than in this country.

Dr. Aveling feared that the styptic fluid might enter the circulation and produce thrombosis. He thought the principle good, but that the sponge plan of Dr. Williams might be safer than Dr. Barnes's. He would like to have heard some reference to transfusion.

The President thought the profession would be gratified in hearing, through the medium of this society, the opinions of so many distinguished men on this important subject. After the decided opinions expressed in favor of the perchloride of iron, its use, so ably advocated by Dr. Barnes, would probably become more extended. As a preventive of hemorrhage he had great belief in pressure, and in fact the only cases in which he had seen hemorrhage fatal under his own care were cases in which, unusual attention to the child being required, the uterus had not been uninterruptedly watched over. Transfusion, to which Dr. Aveling had alluded, was adapted to cases of a somewhat different nature, where the hemorrhage had ceased.

Dr. Barnes, in reply, said he had not forgotten either the subject of transfusion or prevention, but the problem set in this paper was how to deal with hemorrhage when present. With regard to electricity, he had preceded his friend, the late Dr. Mackenzie, in proving the power of faradisation in causing uterine contraction, but he had abandoned it, because it was inconvenient, often intensely distressing to the patient, and inferior to other means. As to Dr. Hicks's remarks upon the frequent absence of large openings of sinuses on the inner surface of the uterus, he reminded the Society that the obliquity of the openings rendered it very difficult to find them; and that Dr. Chowne and others,

by injecting the vena cava backwards showed that water would escape in torrents on the uterine surface. With reference to priority, he must say that he was surprised to hear such very general expressions of approval of the treatment; but that it was not yet a recognized plan was proved by the absence of mention of it in our text-books. It appeared to have been first used by D'Outrepont; it was pointedly recommended by Kiwisch in 1840; his own first published recommendation of it was in his "Lettsomian Lectures on Placenta Prævia in 1857," and of course he had used it before that date. In conclusion, he expressed his belief that the perchloride of iron would come into general use as a recognized plan of treating uterine hemorrhage.

ART. 236.—*On the Use of the Short Forceps in Midwifery Practice.*

By THOMAS MOORE MADDEN, M.R.I.A., Assist. Physician to the Rotundo Dublin Lying-in Hospital.

(*Medical Press and Circular*, September 22.)

Having described the short forceps, and pointed out the cases in which it it should be resorted to, Dr. Madden states the manner in which the instrument should be used.

In the first place, ascertain if the rectum has been properly cleared out or not, and, if it has not, administer a purgative enema, and wait till it has operated before doing anything else.

The next point to be attended to before introducing the forceps is to pass the catheter, and this must be done even when we are assured by the nurse that the patient has made plenty of water.

A digital examination is then to be made, in order to ascertain the exact position of the head, and convince ourselves of the fact that the os uteri is fully dilated or dilatable.

The operator now sits down behind his patient, facing the perineum, and introduces the index and first fingers of his right hand, previously smeared with lard, up into the vagina behind the symphysis pubis, and passes them round half the circumference of the pelvis on the child's head until he comes in contact with the ear, which is generally towards the left iliac region, and sometimes on the right or towards either side of the pelvis. The ear should always be felt distinctly before the short forceps are introduced, and although some recent writers do not approve of this rule, yet Dr. Madden always acts on it in his own cases.

The reasons for applying the forceps over the ear are, that the instrument, fitting better over the sides of the head and face, exercises a more equable pressure on the head, and is less liable to slip than when placed in any other position.

Before being introduced, the forceps must be brought as nearly as possible to the temperature of the body, then smeared with lard, the upper blade, the first to be introduced, is taken in the operator's left hand, and, being held as lightly as a writing pen, is, during an interval in the pains, to be slowly insinuated by a gentle wavy motion, between the two fingers of the accoucheur's hand which rest over the ear, and the child's head, until it has passed so far up that the lock lies close without the perineum. The anterior, or pubic, blade is always introduced first in the Rotunda Hospital, but in England the reverse is generally the case. The instrument must, in the first stage of the process, be passed upwards and backwards in the direction of the lower axis of the pelvis, but almost immediately it must be turned in the axis of the upper portion of the pelvis upwards and forwards.

The point of the blade is to be kept in contact with the fœtal skull, as the moment it diverges from it, the least degree of force might drive the instrument through the vesico-vaginal or recto-vaginal wall, the direction of the point being determined by the angle at which we keep the handle, so that, except at the moment that the instrument passes over the ear, when the handle must

be depressed a little during the introduction of the blade, the handle should be gradually raised as the forceps slides over the convex head of the child.

The handle is then to be given to an assistant to retain *in situ;* the operator, holding the instrument with the right hand, introducing two fingers of the left in the same manner as before, passes up the other blade of the instrument, until the locking parts of both are opposite each other, when, having passed the finger round the lock to guard the soft part from being caught by it, the forceps may now be locked.

In locking the forceps, as in its application, force is unnecessary and unjustifiable. If the blades have been properly introduced and applied to the head, there will be no difficulty whatever in locking them. If they are not properly adjusted, no degree of force can be of the least use, and as it is essential that the forceps be properly locked before any attempt at extraction is made, if there should be any difficulty in locking, no time should be lost in trying to bring the instrument into apposition, but the blade last introduced must be at once withdrawn, and reintroduced in the right position.

The extraction of the head is generally the easiest part of the operation. The operator, bearing in mind that the axis of the pelvis is a curved line, the axis of the inlet being downwards and backwards, and that of the outlet being downwards and forwards, makes his traction to correspond with this. At first he pulls downwards and backwards, and, as the head descends, alters the direction of his force until the head comes to distend the perineum, when he draws the head directly forwards.

As a rule, delivery with the forceps should be as close an imitation of natural labor as possible—that is to say, bearing in mind that in natural labor the advance of the head is so slow and gradual, that the progress effected by each pain is almost imperceptible, the forceps should be so gently used as to imitate in the slowness of its action the course which nature itself points out.

The powers of the instrument should be exerted in the most gradual manner, except in certain cases of complex labor, where immediate delivery is essential, and no attempt at finishing a tedious labor by any sudden and forcible effort is justifiable; nor should any desire to relieve his patient from suffering or himself from a wearisome task, induce the practitioner to attempt by force what time, patience, and skill can alone safely accomplish.

The old rule of waiting for a pain before commencing to draw down with the forceps, and of acting in concert with the uterine expulsive efforts, is obviously well founded, and should be acted on whenever the pains have not ceased before the forceps have been applied.

As soon as the occiput escapes from the vulva, it is generally advisable, in order to prevent the risk of lacerating the perineum, to trust the case to nature, and if there be sufficient uterine action to accomplish the labor, the instrument should now be unlocked, and the posterior and then the anterior blade gently removed, and the head forced out by pressing well on the perineum during the pains.

After the head has descended into the pelvic cavity, the short forceps may be used in three different positions:—

1st. Where the head is delayed at the outlet, the face lying in the hollow of the sacrum, the occiput under the arch of the pubis, and the sagittal suture lying in the perineum, the ordinary position at the end of the second stage of natural labor.

2d. When the labor is delayed by the mal-position of the head, the face being turned forwards towards the symphysis pubis, the occiput and vertex being opposed to the sacrum and perineum.

3d. Where the face lies to either side.

In the first position, delivery according to the rules already laid down is generally easy enough. In the second variety of position, the lock will be at the vertex and the point at the chin, and, by depressing this, the occiput will be drawn forwards from the perineum. The management of the third position demands no special mention.

Forceps cases require to be very carefully watched during the period of convalescence after labor. As a rule, if the operation has been properly performed,

the recovery of the patient will be as speedy and perfect as after a natural labor. But, even after the best obstetric operations, peritonitis, metritis, puerperal fever, inflammation of the pelvic structures, may follow an instrumental delivery. This fact should be borne in mind, so that the moment the earliest premonitory symptoms of any of these diseases manifest themselves, they may be at once met with the appropriate treatment. After all cases of protracted labor, and especially after forceps cases, the state of the urinary function should be watched closely for the first few days, and if there be any retention, the catheter should be used at least twice a day.

ART. 237.—*On the Treatment of Laceration of the Perineum immediately after Delivery.*

By JOHN BRUNTON, M.A., M.D., Surgeon to the Royal Maternity Charity, London.

(*Glasgow Medical Journal*, November.)

If the laceration be up to the sphincter ani, but not through it, all the treatment that is necessary is to tie the mother's knees together, and pay strict attention to the cleanliness of the injured parts. Dr. Brunton adopts the plan of expelling all clots from the uterus and tight-bandaging the patient, putting a compress over the uterus for the purpose of keeping up its contraction, and thereby reducing the lochial discharge to a minimum, and having the vagina daily washed with a solution of Condy's disinfecting fluid. It is obviously necessary in so doing to use a syringe with a small tube, else the parts would be disturbed. It is also advisable to avoid purgative medicines for a week or so, and to give a light but nutritious diet, such a diet as will produce as little feces as possible.

Dr. Brunton narrates three cases of laceration through the perineum, treated, immediately after delivery, by passing three silver sutures with a curved needle deeply through the torn sphincter. No chloroform was given, and it is stated that the mothers *did not complain at all of the passage of the needle.* The after-treatment consisted in daily syringes of the vagina with a tepid solution of Condy's fluid, constipation of the bowels by means of opium pills, and rest in bed. In the first case the sutures were removed on the seventh day, and on the tenth an enema was administered.

Dr. Brunton remarks :—

1st. That the result of his operations is very satisfactory.

2d. That the operation is very easy.

3d. That it is comparatively free from danger, and is nearly painless, requiring no chloroform, because the parts which have been torn are in an anæsthetic state, being benumbed by the pressure they have recently undergone.

ART. 238.—*On Post-Partum Hemorrhage.*

By ROBERT BARNES, M.D., F.R.C.P., Lecturer on Midwifery and Diseases of Women, St. Thomas's Hospital.

(*The Lancet*, January 30.)

Dr. Barnes gives the following account of the method he adopts :—

"A very convenient preparation is the Liquor ferri perchloridi fortior of the British Pharmacopœia. Half a pint of this may be carried in the 'obstetric bag,' and when wanted it may be diluted to a quart by adding a pint and a half of water. This dilution should be put into a small deep basin. The syringe most convenient is Higginson's, fitted with a uterine tube about nine inches long. My syringe has a common mount, which is made to fit either the elastic dilators or the uterine tube. Care should be taken that the air is not sucked up into the syringe. To avoid this, keep the entrance-tube of the syringe at the bottom of the fluid, and pump through back into the basin until the syringe

is filled with the fluid. The apparatus being ready, pass the left hand into the uterus, clear away all the placenta and clots, then slip up the uterine tube along the palm of the hand, so as to carry the end of the tube up into the fundus of the uterus; then compress the syringe gently and steadily, so that the fluid may trickle down over the whole inner surface of the uterus. The pumping may be repeated until the basin is *nearly* emptied—not quite, lest the air be taken up. As the iron acts by coagulating the blood in the mouths of the vessels, and mere contact is enough for this, it is unnecessary to pump with any force.

"The effect of this injection is to corrugate the inner surface of the uterus, and commonly some degree of the muscular contraction follows. I have hardly ever known any more hemorrhage to occur after one injection. Henceforth the patient is safe from further loss; and if not already too far exhausted by previous loss, there is nothing to prevent the patient's recovery.

"I have practised this plan for several years, and in a great number of desperate cases, where kneading, compression, ergot, cold in every form, had failed, and I have seen no bad consequences from it. Practised with the precautions I have laid down, I believe it is in itself safe, and I am certain that not a few lives have been rescued by it from otherwise imminent death.

"I have also used it in cases of excessive flooding attending abortion. But where the uterus is small, and the cervix not admitting more than the finger, I now prefer to apply the styptic on a swab, such as a common probang. I have a strong suspicion that in one case of early abortion, an injection made too forcibly by means of a caoutchouc bottle was the cause of a fatal catastrophe. The patient died almost suddenly soon after the injection, with symptoms resembling those consequent upon air entering the circulation.

"This, the only accident I am acquainted with, suggests caution. But in a desperate emergency, like flooding, we must be prepared to encounter some risk, rather than suffer the patient to lose that last little stock of blood in which the life of the patient lingers."

ART. 239.—*Concealed Accidental Hemorrhage of the Gravid Uterus.*

By WILLIAM GOODELL, M.D., Physician in Charge of the Preston Retreat, Philadelphia.

(*American Journal of Obstetrics*, August.)

The author relates the following case which came under his own observation, and adds brief notes of 105 examples of this rare complication:—

"C. M., aged thirty, a pale-looking Irishwoman, eight years married, was admitted into the Preston Retreat, September 4th, 1866. Has had four labors at term, each requiring the forceps, and progressively increasing in difficulty, although the infants were born alive. Her last labor was the most severe, notwithstanding the child weighed much less than the others.

"For six days she cheerfully performed light work, making no complaints to me, but, after her death, I learned that on the day previous to her admission she had fallen down a flight of stairs, and had since spoken of 'a pain in her liver,' which prevented her from sleeping on her right side. At 1 A.M., the 10th inst., she was aroused by a spasm of pain, and soon after presented the following symptoms: Countenance pale and anxious; eyes hollow; pulse frequent and thready; extremities cold; frequent retchings, purgings, and eructations annoyed her; whilst a constant agonizing pain in the right hypochondrium, increasing at irregular intervals like cramps, caused her to utter loud outcries. The cervix uteri was conical; the os dry and impervious; every symptom of labor absent. The index-finger easily reached the promontory of the sacrum, showing a narrow conjugate diameter; the abdomen was distended and tympanitic; the uterus normal in form. She attributed her sufferings to a colic produced by a supper of cucumbers, and as they were vomited up undigested I adopted the same opinion. Anodynes were given, heat applied to the feet, and sinapisms to the abdomen. Reaction soon set in; severe pain ceased, and she quietly dozed until 6 A.M., when she suddenly became very restless and screamed

with the agony. The same train of symptoms was repeated; retching, collapse, &c., and I began to mistrust the accuracy of my diagnosis; so, after giving her ether, a more thorough examination was made.

"There was no appreciable labor-pains; no sensible intermittent condensation and relaxation of the uterine fibres; no dilatation of the os uteri. The uterine walls were tense and unyielding, as if under the action of one continuous labor-pain. The placental murmur was just perceptible, but all the fœtal sounds were absent. I now began to suspect the existence of a concealed hemorrhage, and, sending for assistance, applied anodynes, stimulants, heat, and ether enough to lull the pain.

"At 10 A.M., a small gush of sanguinolent serum took place, followed by a constant dribbling of the same fluid. This I took to be the waters, but, upon examination, found the membranes tense and entire, and the os now dilated to the size of a silver quarter, but with an extremely sharp and rigid edge, in which condition it remained for many hours. This discharge gave great relief; she rallied, lay quietly, and eagerly took some nourishment. In this improved state she continued until 5 o'clock P.M., when during my momentary absence, insisting upon rising to empty her bowels, the membranes burst, and she began to flood. At this moment Dr. A. H. Smith opportunely arrived. The prostration now ensuing was so complete that the os immediately relaxed, whilst the uterine and abdominal walls became so flaccid that the outlines of the child's body and extremities could be traced by the eye; in fact, the position of the head was thus determined, for the fontanelles were beyond a discriminating reach. Dr. Smith applied the forceps, but no traction on his or my part could make the head engage. During these efforts the flooding persisted, whilst the struggles and shrieks of the poor creature were so distressing that ether was resorted to. The head was therefore opened, and even then with difficulty delivered, whilst the shoulders demanded the use of the blunt hook. A fearful gush of grumous blood followed the delivery; and the detached placenta, together with a basinful of old clots, was immediately removed. The uterus, in spite of ice, friction, and galvanism, remained as limp as a wet rag; indeed, so extremely flaccid, that while the hand was within the uterine cavity to stimulate contraction, the form of the fingers, and the intervals between them could be seen through the abdominal walls. No further hemorrhage, however, took place, as the woman was completely drained, and she quietly died at half past 7 o'clock P.M., about twenty minutes after delivery, and eighteen hours after the first attack. The placenta was large, flattened, and, upon its uterine surface, studded with clots which dipped down into its substance. The child lacked a month of full term, was thoroughly blanched, and weighed without the brain, seven pounds and two ounces.

Autopsy: The posterior tips of the pubic bones at the symphysis were prolonged into two processes, forming a re-entrant angle; whilst the promontory of the sacrum was sharp and projecting, narrowing the conjugate diameter to barely three and a half inches. An inch below the symphysis on the right descending pubic ramus, a sharp exostosis jutted out; whilst another occupied a point on the ileo-pectineal line, near the right sacro-iliac junction; both still further diminishing the capacity of the pelvis. To add to these complications, the pubic rami formed a Saracenic, in lieu of the normal Roman arch. The uterus was healthy, but blanched and flaccid; the placental disk situated on its right postero-lateral surface, which accounted for the absence of any lateral bulging of the uterus as one of the symptoms. At points corresponding to the promontory and to the exostoses, several ecchymosed grooves were ploughed out, on the internal surface of the womb, by the pressure of the child's head. Upon the anterior peritoneal surface of the womb was found a fissure, about an inch and a half in length, so neatly divided as if cut with a knife; but no blood had collected in the abdomen."

An analysis of the cases collected by Dr. G. shows, he says, the importance of early interference. "So soon as an accurate diagnosis is made out, the rule should be imperative to deliver the woman as soon as possible, and thus lessen the bleeding surface; for as the hemorrhage is a concealed one, it is safer to act on the assumption that it will continue until the birth of the child or the

death of the woman. By simply piercing the membranes the same benefit may not accrue as in the franker forms of accidental hemorrhage. In the latter, by an early evacuation of the waters the hemorrhagic area is rapidly diminished. In concealed flooding this drainage will affect nothing, should the adherent margin of the placenta not yield; and indeed, even if the placenta should become detached, the blood may go on accumulating behind the membranes until it shall fill up the space originally occupied by the liquor amnii, thus rendering the condition of the woman still more perilous. To avoid this danger, after perforating the membranes, a very tight binder and compresses should be applied over the abdomen to prevent any further distension whilst other means are resorted to.

"This method of treatment has been questioned by no less authorities than Baudelocque, Puzos, and others, who contend that the waters should not be drained off, or the womb emptied of its ovum, unless labor-pains be present or can be aroused, and the os be sufficiently dilated to admit the hand. The former eminent obstetrician supports this opinion by the following fallacious dictum: 'The hemorrhage cannot become so great as to effect such changes in the volume of the womb, without causing the expulsive action to be keenly solicited, and this soon responds by pains first resembling and ultimately becoming true labor-pains.' * * * * But an analysis of the cases here collected proves the contrary, and lays down as axioms: (*a*) that the greater the hemorrhage, the greater will be the syncope; (*b*) that the pains of labor will become feeble in direct proportion to the severity of the collapse; (*c*) that consequently they are generally absent in the worst cases of hemorrhage, and cannot be aroused by the most powerful stimulants and oxytocics, so long as the uterus is over-distended; (*d*) but that when the membranes are pierced the vital contractility of the uterine walls condenses them, and usually provokes their organic contractility, unless the system be too far depressed.

"It is well to recollect that in some cases there are feeble but intermittent condensations of the uterine fibres, which have undoubtedly been mistaken by observers for labor-pains. But these closely resemble those false labor-pains which only affect the fundus, and do not dilate the os uteri; they are merely instinctive efforts on the part of nature to resent the presence of intruding clots. In the majority of cases of internal flooding, the os dilates passively; but this is due not to the natural consequences of labor, but simply to the flaccidity of the cervix and surrounding tissues, resulting from the state of collapse, and also to the *vis a tergo* of an excessive uterine distension. Hence it follows that the dilatation of the os, in the absence of labor-pains, is in itself a speaking evidence of a serious hemorrhage. Under such circumstances it therefore behoves us not to rely upon nature to accomplish this dilatation, but to rupture the membranes early, apply the binder, and if necessary, introduce Barnes' dilators, which are in fact more efficient than the bag of waters for rapid extension of the os, and will obviate any necessity for incising the margin of a rigid os.

"If the os be dilatable, immediate delivery should next be attempted, either by the long forceps or by version. Each measure will have its advocates; but here, in our opinion, version by the feet meets all the requirements, and is decidedly preferable to the forceps; especially as the child very universally perishes at an early stage of the accident, and therefore no considerations for its safety are to embarrass the efforts at a speedy delivery. If the practitioner have attended his patient in previous labors, and know that her pelvis is ample, he is warranted in applying the forceps, provided there will be no delay in dragging the head through an imperfectly dilated os, and no subsequent detention at the perineum. Under the most favorable circumstance a delivery by the forceps is always accompanied by a more or less delay. Should the head become locked at the brim, as in my own case, or in the pelvic cavity, the physician would indeed have every reason to regret that the uterine cavity had not been previously emptied as much as possible, both by the delivery of the child's body, and by the extrusion of all the clots which the operation of version would necessarily involve.

"In all other dangerous complications of labor requiring immediate delivery

version deservedly holds the first rank, because, by the bi-manual method, it can be resorted to at a much earlier period than the forceps. I have here, however, designedly placed these two operations on the same level as regards time, for when the hand can pass the os uteri, the forceps can often be applied; and in my opinion, to perform version in a case of concealed flooding, the whole hand will require to be introduced, from the fact that the bulging in of the placenta or membranes, by the extravasation behind them, would present a ledge over which the breech or body of the child could not be made to glide by the feebler purchase of the bi manual method of version.

"As ergotism cannot be induced in cases of grave hemorrhage, ergot should be freely given, in order to counteract the tendency to relaxation of uterine fibres, and to provoke true labor-pains after the rupture of the membranes. If, however, version be demanded, it may be prudent to withhold this drug until that operation has been performed. Of course, active stimulants, opium in full doses, beef-tea, &c., must not be spared. Warmth to the cold extremities is very grateful, and by derivation is often useful in arresting hemorrhage; perhaps, according to Chapman's theory, it would prove still more efficacious if applied also to the spine.

"Finally, whenever the symptoms are obscure, and the diagnosis doubtful, act as though the case was one of concealed hemorrhage, and follow the precept laid down by Theodore Mayerne for the management of flooding, '*præstantissimum remedium est foetûs extractio.*'"

ART. 240.—*Prolapsus of the Uterus containing a Child between the Seventh and Eighth Months of the Second Pregnancy.*

By WILLIAM ALLISON.

(*British Medical Journal*, June 5.)

Mr. Allison records the following very remarkable case of this:—

"On 23d March, in attending upon a woman, I found the uterus, containing a child, in the bed, just as if the child had been born. After sponging off any trifles of lint, etc., from the uterus, the entire mass was carefully returned into the abdomen of the mother. On March 24, a pessary was introduced, and each day, for three days, one of a different kind; but as all were intolerable, the woman was desired to lie or sit until labor came on. On May 2, after a lingering labor, the child was born and is now living—a healthy man in Sheffield. In 1844, a second son was born: both he and the mother are now living in East Retford."

ART. 241.—*Management of After-Pains.*

By T. GAILLARD THOMAS, M.D.

(*The Medical Record*, August 16.)

Professor T. Gaillard Thomas, M.D., in a "Lecture on the Management of Woman after Parturition," gives the following timely hints: The less firmly a uterus contracts, the more severe are the after-pains, for firm contraction expels these clots, and thus the cause of the painful contraction disappears. For this reason, after first labors they do not occur. To cause firm uterine contraction, administer a full dose of ergot, just after or during the stage, in every case. Ergot never does harm, but fulfils an indication of great importance, and guards against the liability of hemorrhage. Should this means fail, let the opiate be given before the obstetrician leaves the house. An excellent combination which he habitually employs for this purpose is the following: ℞.—Chloroformi (squill) ʒijss, morphiæ sulph. gr. ijss, syrupi ʒij.—M. A teaspoonful every hour till relieved.

ART. 242.—*Cases of Transfusion; with some Remarks on a New Method of Performing the Operation.*

By J. BRAXTON HICKS, M.D., F.R.S.

(*Guy's Hospital Reports*, vol. xiv.)

In this paper Dr. Hicks records the particulars of six cases, the majority of which occurred in the Maternity Charity of Guy's Hospital; and although the results were unsatisfactory on the whole, yet suggestions for improving the operation may be derived even from the failures which have been experienced. Dr. Hicks observes that it appears surprising, at first sight, that the operation of transfusion has not been more extensively employed, and yet nearly a century has elapsed since Dr. Dashwood recommended it in cases of extreme hemorrhage. But the general want of success, and the various impediments which occur during the performance of the operation, are the principal reasons which have prevented its frequent adoption. The want of success, however, is partly to be attributed to the postponement of the measure till too late a period, and partly to causes connected with the operation itself. Dr. Hicks finds one of the most trying hindrances to success in the tendency of the blood to coagulate at all stages of the proceeding and in all parts of the instruments, and hence arises not only the difficulty of injecting the blood, but also the danger of driving a small clot from some portion of the instrument into the venous circulation. This is particularly the case with the use of all complicated instruments, and in four instances, in which Dr. Hicks used blood alone by the aid of the old funnel and syringe, he found the greatest inconvenience and detention from the coagulation. Dr. Hicks's proposal for an improvement in the mode of performing transfusion has for its objects the simplification of the instruments and the prevention of the fibrillation of the blood. The latter object is attained by certain saline solutions, which are, moreover, tolerated by the system when introduced into the veins. The salt which is found to possess this double property in the greatest degree is the phosphate of soda, as suggested by Dr. Pavey to Dr. Hicks. The latter physician believes that it is possible, by the help of this salt, to delay the transfusion of the blood until proper arrangements can be made for the operation: for the want of success is often due to the hurried manner in which the plan is adopted, and some experiments on dogs seem to prove that blood mixed with phosphate of soda, and kept out of the system for some time, can be injected back into the animal without detriment.

(B) CONCERNING THE DISEASES OF WOMEN.

ART. 243.—*The Surgery of the Cervix in Connection with certain Uterine Diseases.*

By T. EMMETT, M.D.

(*American Journal of Obstetrics.*)

Dr. Emmett gives a summary of his experience of dilatation of the cervix uteri by incision. The uterus being, he says, an erectile organ, flexure may vary in degree owing to the variation in the circulation. The flexure is above the vaginal junction. Surgical interference in such cases is unjustifiable. In endometritis with flexure, he uses large vaginal injections of hot water. This after a time produces contraction of the vessels. Then a solution of chromic acid, or iron, or iodine may be applied to the inner surface of the uterus by aid of two instruments, the uterine probe and the "applicator." The probe is a small ductile silver sound. This takes the curve of the uterus. The "applicator" is moulded to the same curve, and carries the fluid soaked in cotton twisted on it. After using chromic acid, Dr. Emmett insists upon keeping the patient quiet. At a later period it may be useful to dilate the cervix by tents. If relief is not obtained, division of the cervix may then be useful. With regard

to the inter-uterine pessary, he says pelvic cellulitis is the rule, and not the exception from its use. When the flexure is below the vaginal juncture, the case is different. This is generally congenital, and dysmenorrhœa and sterility commonly attend it. His impression is that fully two out of three of the married, operated upon under twenty-five years, have become pregnant within the first year. Division of the cervix should not be attempted in any case when perimetritis is suspected. If the flexure is in the cervix, Dr. Emmett divides the posterior lip in the median line with scissors. If the flexure is high up and at a sharp angle, division of this anterior angle with the knife will be necessary. The open canal should be firmly packed with little pledgets of cotton soaked in glycerine, and over all the vagina tamponed, as if hemorrhage at the time actually existed. This precaution is of the greatest importance, for a divided vessel in erectile tissue may contract promptly at first, but with reaction after the operation bleeding comes on suddenly, and the mouths of the vessels enlarge in a remarkable manner from the force and the continuance of the current.

Dr. Emmett has abandoned the practice of incising the anterior lip for dysmenorrhœa depending on retroflexion. He says this condition rarely exists for any length of time without the supervention of perimetritis, and frequently of pelvic cellulitis; hence adhesions. The fundus can in such cases often be restored by gradual and repeated manipulations by a finger in the rectum, the adhesions gradually yielding.

Dr. Emmett objects to incision of the cervix at the lips, on account of the tendency to gaping of the flaps, and subsequent rolling out of the lining membrane of the canal.

Amputation of the cervix is rarely necessary, except for malignant diseases. Dr. Emmett believes the cauliflower growth at least is a local disease at first, and says in several cases where he has been able to amputate the neck beyond in healthy tissue no return has occurred for several years. But these cases have been exceptions, as the disease has returned in the majority of instances between the fourth and sixth months.

Art. 244.—*Anemia and Chlorosis.*

By T. Gaillard Thomas, M.D., Prof. of Obst. and the Diseases of Women and Children, in the College of Physicians and Surgeons, New York.

The following table, taken from Dr. Thomas's excellent *Treatise on the Diseases of Women*, will assist materially in diagnosing between the two diseases :—

Anemia.	*Chlorosis.*
Is merely impoverishment of the blood from want of nourishment, from some drain upon the system, or from some poison in the blood.	Is a disease of the nervous system, and may occur with or without the production of its most common symptom, anemia.
Can usually be accounted for by discovery of some special cause.	Cannot usually be accounted for by discovering any special cause.
Occurs at all periods of life, to men, women, and children.	Occurs in true type only to girls about time of puberty.
Is really curable by removal of cause, good diet, and administration of iron.	Is affected favorably only by remedies which act upon the nervous system, as alteratives and tonics.
Is always characterized by impoverishment of blood.	Sometimes exists without impoverishment of blood
Produces a puffy and pale appearance.	Produces a light green color.
Does not produce sadness or great nervous disquietude.	Produces sadness and nervous disquietude.
Is unaccompanied by visceral neuralgia.	Is constantly accompanied by visceral neuralgia.
Fibrin diminished in blood.	Fibrin increased in blood.
No special affection of solar plexus of nerves.	Pain, uneasiness, or distress, commonly referred to solar plexus.

Iron always does good.	Iron often increases discomfort.
Symptoms of ovulation will be noticed without menstruation.	Neither symptoms of ovulation or menstruation will be noticed.
The cause of the disease being removed, the patient will rapidly improve.	If supposed cause be removed, patient will often improve, but slowly.

ART. 245.—*Treatment of Chlorosis.*

By WILLIAM A. HAMMOND, M.D.

(*The Medical Record*, July 1.)

Ten drops of Fowler's solution and one-thirtieth grain of strychnia, three times a day, are given by Professor Hammond in chlorosis.

ART. 246.—*The Rectum in its Relations to Uterine Disease.*

By H. STORER, M.D.

(*American Journal of Obstetrics*, 1869; and *British and Foreign Med.-Chir. Review*, October.)

Dr. Storer contributes a valuable essay on the rectum, in its relations to uterine disease. Having illustrated the frequency of diseases of the rectum, and their bearing on uterine disease, he points out a mode of examination which he thinks superior to those in ordinary use. He deprecates for diagnosis, as well as for treatment, the use of the anal speculum. He says that by erecting the rectum by passing the finger within the vagina, we are able to explore the rectal cavity far more thoroughly than by any other means, and to apply remedies and perform operations with an ease, safety, and satisfaction that are otherwise impossible. He gives several interesting clinical illustrations of his views and practice. He relates a case in which an ovarian tumor opened into the rectum, and was cured by a fistulous communication; also a case of utero-ovarian fistula. The patient had a large abdomen, and pus escaped from the os uteri. A large male catheter passed through the os its full length, gave exit to a large hand-basinful of a fetid sanies, with the effect of lessening the abdomen, and allowing the point of the catheter to be felt upon one side of the umbilicus.

ART. 247.—*Vaginismus treated successfully without Operation.*

By WHARTON P. HOOD, M.D.

(*The Lancet*, December 11.)

The following case is recorded by Dr. Hood:—

"In August, 1868, I attended a lady, twenty-three years of age, who had been married two years; and during this time all attempts at marital intercourse had failed, owing to the pain suffered by the female. The health of both husband and wife, it need hardly be said, was not improved by this condition of affairs. The wife was extremely anxious that something should be done to remedy matters, but was excessively nervous at the thought of an operation. I told her, however, that I did not think an operation, in the ordinary sense of the term, would be necessary; but as she was so fearful, she might have some chloroform. Accordingly, I administered chloroform on the 12th August, and, in the presence of the husband, made a vaginal examination. I then found that the hymen had been ruptured, and so far as that was concerned there was no obstacle to complete intercourse. The remains of the hymen were still apparent; and there was some slight redness and irritation of the parts. The vaginal canal was small and rigid, and to this fact, together with the shrinking of the patient from pain when intercourse was attempted, I attributed the failure in question.

"The treatment which naturally suggested itself as the result of this exami-

nation was, the dilatation of the vagina; and this I accordingly proceeded to effect by introducing a dilating bivalve speculum (Weiss's). Having expanded the blades of the instrument by the screw action, I allowed it to remain *in situ* for about five minutes. I then explained to the husband the nature of the operation, at the same time showing him the speculum, and directed him to tell his wife afterwards what had been done, so as to remove from her mind any fear that an obstacle still existed.

"I heard from him a week later that a slight feeling of discomfort was complained of for four or five days afterwards, but when this had subsided the attempt at intercourse was renewed, and no difficulty was experienced in effecting it completely. Eleven months from this time the patient was confined of a son, and no further inconvenience had occurred.

"The interesting feature in this case is that, by the very simple procedure of dilating the vagina, a very troublesome state of affairs was rectified; and I am prompted to bring the case under the notice of the profession, in order to induce others to try this method in preference to the more serious operation recommended by Dr. Marion Sims, who, in his 'Clinical Notes on Uterine Surgery,' p. 335, writes: 'The treatment [of vaginismus] consists in the removal of the hymen, the incision of the vaginal orifice, and subsequent dilatation. The last is useless without the first two, but is essential to easy and perfect success with them.' Now the case I have recorded proves, so far as it goes, that dilatation, without incision, is not only not 'useless,' but may, at least in some cases, be perfectly successful; and when it is recommended that, after incision, a dilator is 'to be worn daily for two or three weeks or longer,' it is evident that the operation is no slight matter, and ought not to be undertaken at least until other means, and especially the one here practised, have been tried and failed. I cannot help thinking that the proceeding recommended by Dr. Marion Sims is calculated in some cases to produce contraction of the parts, and thus rather to aggravate the evil complained of."

Art. 248.—*The Treatment of Chronic Uterine Catarrh.*[1]

By S. W. Playfair, M.D.

(*British Medical Journal*, August 28.)

The author commences his paper by a review of the symptomatology and pathology of the affection variously described by some such name as "chronic uterine catarrh," "uterine leucorrhœa," and "chronic endometritis." He quoted from Scanzoni and other writers to prove the extreme intractability of the complaint. Passing to the treatment, he referred to the unfounded dread entertained in this country of any such local applications directly to the seat of the disease as would undoubtedly be employed in similar affections of the mucous membranes in other parts of the body. He contrasted this with the treatment employed by many of the most distinguished gynæcologists on the Continent and in America, quoting their opinions in favor of systematic intra-uterine applications. He next discussed the various modes by which these might be applied. Describing the treatment by intra-uterine injections, he referred to their dangers and drawbacks; and stated his belief that all the good they were capable of effecting might be accomplished by other and safer means. He next described the treatment he himself employed, by swabbing out the interior of the uterine cavity with cotton-wool saturated in a solution of carbolic acid, the wool being thinly wrapped round a flexible probe of metal or whalebone. Dr. Playfair concluded by adverting to the success which had followed this treatment, averring that he had not yet met with a case of the disease which had not either been entirely cured, or at least greatly ameliorated; and that he had never seen any bad consequences follow his practice.

---

[1] Abstract of a paper read at the thirty-seventh annual meeting of the British Medical Association, held in Leeds, July, 1869.

ART. 249.—*On the Pathology and Therapeutics of Dysmenorrhœa Membranacea.*

By Dr. F. MANDL.

(*Wiener Med. Presse, No.* 1, 3, 4, 6, 8, 11, 15, 1869; *Schmidt's Jahrbücher*, No. 7, 1869.)

Dr. Mandl gives the following conclusions as the results of his investigations on this subject:—

1. Dysmenorrhœa membranacea, decidua menstrualis, is a serious affection.
2. Its pathology consists in an expulsion, during, or at a later period than forty-eight hours after the period, of a formation similar to the Hunterian membrane. In some cases a similar extra-menstrual membrane is formed.
3. Its configuration resembles that of a membrane detached from the uterus.
4. It consists merely of the epithelium of the uterine mucous membrane and the elongated and torn out ducts of the utricular glands (very like to chorionic tufts).
5. Menstrual and also extramenstrual membranes may be developed during a menopause as a result of chronic inflammation.
6. The affection leads, in course of time, to retro and anteversion, congestion, and disturbances of the circulation to the uterus, and to considerable constitutional disturbance.
7. Cure of the last cannot be expected before cure of the local symptoms.
8. All the patients thus affected are sterile.
9. The etiology of the disease is quite unknown to pathology, and therapeutics require further study.
10. The direct application of chlorate of potash to the mucous membrane of the uterus seems to hinder the formation of the membrane.

ART. 250.—*Chromic Acid in the Treatment of Menorrhagia and Uterine Leucorrhœa.*

By DAVID WOOSTER, M.D., of San Francisco, Cal.

(*American Journal of the Medical Sciences*, Oct.)

The author has used chromic acid in several instances, both for menorrhagia and uterine leucorrhœa, with uniform and absolute success. He uses the acid in leucorrhœa in the strength of fifteen grains to a drachm of hot water, having first dilated the cervix with sponge tent. One injection is generally sufficient, when the general health is not seriously impaired.

The injections in any event should not be repeated in less than four or five days; unless the cervix be well dilated before the injection, the most alarming collapse may supervene in a few moments. The same thing will often happen even if the cervix has been well dilated, unless the patient remain in bed at least twenty-four hours after the injection. Notwithstanding these *possibilities* of harm, the chromic acid is perfectly harmless if used with the precautions suggested; and if it will cure a chronic uterine leucorrhœa, it is certainly worth the trouble of being carefully handled, and its *possible* dangers are no greater than might result from the careless use of salt and water. If labor-pains and tendency to collapse should supervene from the carelessness of physician or patient, hot fomentations to abdomen, lavender and ammonia or brandy internally, with absolute rest in bed, will afford prompt and permanent relief.

ART. 251.—*On the Peritoneal Adhesions of the Gravid Uterus as a Cause of Post-Partum Hemorrhage.*[1]

By GRAILY HEWITT, M.D., F.R.C.P.

In this paper the author pointed out an occasional cause of retention of the placenta, and consequent liability to post-partum hemorrhage, arising from adhesions between the upper part of the gravid uterus and the adjacent parts, whereby the uterus is prevented from descending in the proper manner after the expulsion of the child, and mechanically held in a distended condition. It was shown how such a state of things must render retention of the placenta and hemorrhage very liable to occur. This cause of difficulty had not, so far as the author was aware, received attention by obstetric authors. The proof of the connection between these adhesions and the accident in question was given by a case which he had observed a few years since. The patient had been delivered of twins, the placenta was retained, and a most profuse bleeding had occurred. The placenta was removed by the hand, the fundus uteri lying very high up in the abdomen. Seven days later death occurred from gradual exhaustion, there having been a little secondary hemorrhage. The post-mortem examination showed firm, tough broken-off adhesions at the top and back of the uterus, giving it quite a shaggy aspect. The ends of these string-like bands hung freely, and were two to three inches long. It was evident that the urethra had been adherent superiorly to these adhesions, and that they had been broken through when the uterus was finally made to descend. [A drawing of the uterus, made at the time, was exhibited.] Next, the author related another case where, after delivery, retention occurred, and the placenta was found inclosed in the fundus of the uterus, at a very unusual height in the abdomen. In this case also, a very violent hemorrhage occurred, but the placenta had been extracted. Lastly, a case was related where adhesions appeared to have been present, tying over and obstructing the bowel, and causing such extreme pain at the end of the eighth month that the question of inducing labor had to be considered. The labor set in in a few hours, the pain having been unceasing. The subsequent events appeared to bear out the opinion just expressed as to the nature of the case. The author finally stated his belief that further inquiry would prove the connection now pointed out between uterine adhesions and post-partum accidents to be one not, perhaps, unfrequently existing, and its practical importance could scarcely be overrated.

ART. 252.—*Notes from a Clinical Lecture on a Case of Irreducible Retroversion of the Gravid Uterus—Paracentesis Uteri—Recovery.*

By Dr. HEAD.

(*London Hospital Reports*, vol. iv.; and *British and Foreign Med.-Chir. Review*, July.)

The subject of this case was a woman, aged nineteen, who was in the sixth month of pregnancy, and who had sustained a blow in the left lumbar region about six weeks before she applied for assistance at the hospital. It appeared that she had experienced great difficulty in passing her water, and suffered extreme pain; but no attempt was made to draw off the urine, although she was taken into a workhouse. When she arrived at the hospital there was a large ovoid tumor above the pelvis, looking like a distended bladder; the perineum was also very much distended, and so was the anal orifice. An attempt was made to pass a catheter, although without effect; but the urine was made to pass by pressing forcibly with the finger at the apex of the vagina. An attempt to rectify the position of the uterus was also unsuccessful. Under these cir-

[1] Abstract of a paper read at a meeting of the Obstetrical Society of London.

cumstances, and after consultation, Mr. Maunder passed a trocar into the uterus through the anus, and a large quantity of liquor amnii came away. Immediately afterwards a large loose motion was passed, and the next day the fœtus and placenta were expelled; and although the symptoms for some time were very alarming, the patient eventually recovered completely. Dr. Head, in his remarks on the case, strongly recommends that in every case of retroversion of the gravid uterus the contents of the bladder should be evacuated. The puncture of the uterus for the discharge of the liquor amnii was an operation first proposed by Dr. William Hunter, in the circumstances of Dr. Head's case, and the operation was justified by the results.

ART. 253.—*Retroflexion of Uterus in a Single Woman caused by Lifting a Heavy Weight.*

Under the care of Dr. HALL DAVIS, of the Middlesex Hospital.

(*The Lancet*, September 4.)

The treatment pursued in the following case, and which was successful, was simple. Dr. Hall Davis tells us that he always adopts it in uncomplicated cases in the first instance, not resorting to local depletion on the one hand, nor to mechanical appliances on the other, unless the former is indicated as a primary measure, or the latter becomes unavoidable, which is less frequent in single women.

C. H., aged twenty-six, single, was admitted into Prudhoe ward, Middlesex Hospital, on February 8th, 1869. Complexion fair, habit spare, aspect feeble, stature medium.

Menstrual history.—Catamenia only appear at long intervals. They were present one month ago, and are always accompanied by much pain, referred to the lumbar and epigastric regions.

History of present illness.—Three weeks ago, after lifting a heavy weight, she felt as if something was suddenly displaced. She then had a sense of weight and dragging within the pelvis, with much pain in the sacral region, and obstinate constipation. Fourteen days ago she caught cold, which aggravated her sufferings, and soon after she felt obliged to keep in bed.

State on admission.—The tongue is furred, pulse quickened, temperature normal, chest sounds good; rectum pressed upon by fundus and body of uterus, which are displaced downwards and backwards into hollow of sacrum. The os uteri is displaced a little forwards; the angle of flexion distinctly felt at junction of cervix and body of uterus. Catamenia present, having returned yesterday. The uterine sound passes easily through uterine orifice downwards and backwards into the cavity of the displaced body. On rotating the sound, the womb is reduced into its correct position; while on removal of the sound, the uterus is again displaced into its former malposition of retroflexion.

Treatment.—The bowels were well cleaned out, and kept free by gentle aperients and enemata. The uterus having been reduced by the sound, the patient was placed in the prone posture, and impressed with the absolute necessity of lying continuously upon her abdomen. Cold water injections into the vagina were practised daily. After three weeks' persistence in this treatment (the organ not being allowed to remain unreduced, if, as it did sometimes after action of the bowels, it became again displaced), she was permitted and enabled to walk about the ward without any recurrence of the malposition. She took, during the latter days of her stay, some tonic medicine, and left convalescent at the end of a month from her admission. She was enjoined to avoid making any strong efforts of lifting, &c., for some time to come, and to avoid constipated bowels. She returned twice subsequently for observation, when the uterus was still found in correct position.

ART. 254.—*A Remarkable Case of Retroversion of the Uterus of Eighteen Years' Standing Successfully Treated by Elytrorrhaphy.*

By J. BYRNE, M.D.

(*Amer. Journ. of Obstet.*; and *British and Foreign Med.-Chir. Review*, October.)

Dr. Byrne's case of cure of retroversion and prolapsus of the uterus by operation is interesting. The subject had a child at seventeen. Soon after she complained of great dysuria and bearing-down. Complete prolapsus ensued. At the end of eighteen years she came under treatment. The tumor was returned within the pelvis. A bag was passed into the rectum and inflated so as to raise the fundus uteri, whilst a tenaculum seized the hypertrophied anterior lip of the uterus, and by this double action the uterus was restored to its normal position. It was found that when the anterior vaginal wall was firmly seized by a hooked forceps, and if at the same time by a sound in the cavity of the uterus, efforts were made to produce retroversion, no amount of force compatible with the integrity of the tissues could succeed in doing so; but when the forceps was removed, and the tension on the vesico-vaginal septum thus removed, there was not the slightest difficulty in producing retroversion. It was therefore concluded that an operation similar to that practised by Sims for cystocele and prolapsus uteri might succeed. The anterior wall of the vagina was depressed so as to make two ridges, longitudinally extending from the meatus urinarius to within half an inch of the os uteri. These ridges were denuded, and the surfaces were brought into apposition by seven interrupted sutures. When the parts had healed, it was found that even by a sound in the uterus retroversion could not be produced. The patient made a good recovery, the retroversion and prolapsus being cured.

ART. 255.—*Ovariocentesis Vaginalis.*

By Dr. E. NOEGGERATH.

(*American Journal of Obstet.*)

Dr. Noeggerath contributes an elaborate memoir, historical, critical, and practical, on the procedure for tapping ovarian cysts through the vagina. He places the patient on the edge of the fauteuil somewhat in lithotomy position, passes a curved trocar and canula to the most prominent part of the tumor, and pierces the cyst. A curved bistoury, with a button at the end, is then passed through the canula, and the canula is withdrawn sufficiently to allow the cutting edges of the bistoury to incise and enlarge the wound. Removing the bistoury, the canula is again pushed forward into the wound, and through it past the sound, which serves as a guide to the introduction of a tube into the cyst after the removal of the canula. The canula used in one case was a piece of elastic stomach tube, about ten inches long. This is retained in the wound to afford an exit to the contents of the cyst. Afterwards Dr. Noeggerath used a special tin canula of large diameter, having a self-retaining apparatus. Through this injections were made when the discharges were offensive. In one case the incisions made caused copious hemorrhage, filling the cyst which had previously emptied. This was stopped by compressing the canula against the angle of the wound by compresses. In another case the hemorrhage was fatal. Dr. Noeggerath says the condition of the cyst-walls must be taken into account when we decide about the choice of a method of operating; if we admit that a cyst with thin walls will collapse more readily, it may, on the other hand, prove a source of danger from the spreading of inflammation lighted up in the inner membrane, to the peritoneum. Peritonitis has frequently followed the operation. Cysts containing fat, hair, or encephaloid matter must be excluded from the operation. Colloid cysts, even if their contents be not thoroughly fluid,

can be treated in this manner. In a case operated upon by Dr. Schnetter, rapid liquefaction of the colloid matter took place after the operation.

When dealing with two or more cysts there is danger of twice perforating the peritoneum, when decomposed fluid or gases would escape either from the upper or the lower cyst into the abdominal cavity. This accident is the reason why the operation of Récamier recently repeated by Sims, must necessarily prove fatal. They passed a long curved trocar through the abdominal walls towards Douglas's pouch, and a second trocar into the cyst through the vagina, so as to meet the first. Thus two openings were established in the cyst, the lower one giving issue to the contents into the vagina, the upper one into the abdominal cavity. It is better to act upon one cyst only at a time. It is probable that by the collapse and destruction of the principal cyst, obliteration of the vessels feeding the smaller cysts takes place; hence they disappear by atrophy. The operation can only be performed in those cases where the cyst is distinctly felt through the vagina behind the neck of the uterus. The risk of septic fever must be avoided by procuring the evacuation of the contents of the cyst, and by altering the character of the secretions. This is done by cleansing and disinfecting injections.

The paper concludes with a table exhibiting the chief features of 48 cases in which an ovarian cyst has been tapped by the vagina. 55 operations were performed upon 48 patients; 34 were unsuccessful. The disease returned in 3; result undecided in 4. Death occurred in 14 cases; in one from hemorrhage, 4 from peritonitis, 7 from septicæmia, 1 from typhoid, 1 from an attack of peritonitis not caused by the operation.

ART. 256.—*Diffuse Hypertrophy of both Mammæ—Excision of one Organ—Favorable Result.*

By S. M. MACSWINEY, M.D., Physician to Jervis-street Hospital.

(*Dublin Quarterly Journal*, November.)

The following case is related by Dr. MacSwiney:—

"M. M'G., aged twenty, unmarried, consulted me in April, 1869, for the inconvenience and weight caused by great enlargement of both her breasts. She gave me the following

"*History.*—She has been rather delicate, although never seriously ill, as long as she can remember. One year ago she noticed a 'kernel' in her right breast. Shortly afterwards she became aware that both her breasts had become rather suddenly considerably increased in size. They had been all her life very imperfectly developed, and were noticeably under the average size up to this time, when they assumed the condition of rapid growth. Their bulk augmented until their weight and size caused her much inconvenience. She never felt any severe pain in them; nothing more distressing than occasional 'stings' darting through them, accompanied by a feeling of general uneasiness in the entire mammary region. Her health soon became seriously impaired; her appetite failed her; she lost weight and strength, and slept badly. She knew of no cause whatsoever for this affection of her breasts. Her monthly periods had been regular in their occurrence ever since their first appearance at the age of fourteen. She had never received a hurt in the part affected, nor had ever experienced any irregular irritation of the mamma, or the related organs. Two months before she came to me she consulted Mr. Edward Hamilton, and was under that able surgeon's treatment for some weeks. No important alteration in her state, however, occurred, she says, during this time; but she observed that the size of the breasts diminished after each catamenial flow, and then resumed its process of increase again, until it reached its maximum at the commencement of the next monthly period.

"After consultation with my colleagues at Jervis-street Hospital, I submitted her to a course of remedies intended to promote the absorption of the hypertrophied tissue. She took iodine in different preparations internally; and the breasts were gently rubbed with a variety of liniments. This plan was persevered with for some weeks, but no improvement followed.

"I now became impressed with a conviction that mere therapeutic measures would not produce any substantial and permanent reduction in the size of the breasts, and, influenced by the results of experience, as recorded by Birkett and others, I felt certain that the only available remedy was excision. And as in some of the reported cases where both breasts were engaged in the abnormal process, removal of one gland only had been followed by a considerable and permanent reduction in the size of the other, I was in favor of removing but one breast at first, and watching the effect for some months. This opinion I communicated to the young woman, and to her parents. She was very unwilling, however, to adopt the advice at the time, and I therefore recommended her to reside for some months in the country, and to pursue a plan of treatment as to diet and remedies, which I prescribed with the object of improving her general health.

"She now passed from under my observation for some time, and among other medical men whom she saw, I believe consulted Dr. Robert Macdonnell, who gave her his opinion that there was but one course to adopt now in her case, after the failure of constitutional treatment, namely, removal—a conclusion which corresponded, as has just been seen, with the one already arrived at by myself.

"On July 16th she once more placed herself under my care, and I again held a consultation with my colleagues as to the course proper to be pursued for her relief. Having considered all the circumstances of the case, seeing that the breasts were continuing to enlarge, and that her health was becoming more impaired, and regarding the failure of remedies to reduce the size of the glands as having been fully established, it was agreed upon by us to advise her to have the right breast removed now, and should this not be followed, in some months, by a considerable diminution in the dimensions of the left, then that it also should be excised. She now willingly agreed to the adoption of this course, declaring that the weight of the organs was quite intolerable; and I asked Mr. Stapleton, whose experience in the diseases of the affected organs was very considerable, to receive her under his care with a view to the performance of the operation.

"At this time the following was her state: She was pale, and somewhat delicate-looking. Her appetite was bad. Her sleep was interrupted and uneasy. She suffers from occasional attacks of distressing palpitation. The first sound of the heart is soft, normal; the second sound is loud, sharp, and shrill. No bruit is audible. The pulse is 90. Her tongue is clean; her bowels regular; her voice is low and feeble, and she seems to suffer from exhaustion and irritation to an alarming extent; she cannot endure the weight of the breasts; she has to support them well up with a piece of strong linen fastened round her waist, on which they rest as on a suspensory bandage.

"The skin over the mammary glands is of the natural color in the upper half, and of a well-marked brownish, or even livid hue, at the lower half. The organs are pear-shaped, and pendulous. In each the nipple is completely retracted. Abnormally large veins, full of blood, can be seen coursing over the surface of the breasts, and adjoining thoracic parietes. The organs are very distinctly nodulated, and have the peculiarly hard feel of mammary tissue in a condition of functional activity. The axillary glands are not affected.

"The dimensions of the breasts were:—

RIGHT.	Inches.	LEFT.	Inches.
Length	11½	Length	10½
Circumference . .	21	Circumference . .	20

"July 24.—I gave her chloroform, and Mr. Stapleton removed the right breast. The operation was completed with the skill and rapidity which characterize all Mr. Stapleton's surgical performances. Very little blood was lost, owing to the precaution taken by Mr. Stapleton of having the tumor elevated for some time before the operation, so as to allow the venous blood to drain away from the repleted vessels. This procedure was first had recourse to by

the late Mr. O'Ferrall when removing a large scrotal tumor, in a case reported by myself—when acting as clinical clerk to the operator—in the first number of the *Dublin Hospital Gazette*, February, 1845.

"I put the breast in the scales immediately after the operation, and found that it weighed six pounds and a half. And we may estimate that at least half a pound of blood was drained out of it into the general system before the ope ration. If we add the weight of the other mammary gland, we will find that the poor girl had to carry about with her, depending from her chest, night and day, a load of nearly a stone in weight.

"26.—Feels no pain in wound, which looks healthy. She had a slight rigor this morning, and is now hot, feverish, and thirsty; complains of headache; her tongue is coated; her pulse 110; the skin over the sternum is red.

"27.—Complains of feeling very ill. The skin covering the left mamma is slightly raised up, hot and painful to the touch; feels rough when the hand is drawn over it; it is discolored, of a brownish-red tint; her tongue is partially coated with a whitish covering, and partially fiery-red looking; her pulse beats 120 in the minute. Mr. Stapleton pronounced her to have a rather sharp attack of angeioleucitis.

"In a few days, however, all the feverish symptoms completely subsided, the wound healed rapidly, union by the first intention taking place, and she soon made an excellent recovery. The removed breast has been presented by me to the Museum of the Royal College of Surgeons of Ireland.

"August 19.—She left the hospital on this day and went to the country for some weeks.

"September 8.—She called upon me on this day, when I found her state to oe as follows: She looks much more healthy than before the operation. She sleeps well; has a good appetite; menstruates regularly, and is quite free from pain and uneasiness.

"On examination I find that the tissues in the right mammary region are quite healthy; a narrow cicatrix alone marks the line of the incision made in the removal of the breast. The skin on the left mamma was puckered up into numerous wrinkles. The gland was reduced considerably in size. Its dimensions now were:—

	Inches.
Circumference	16
Length	6½

Thus a gain of four inches in each of the two measurements has been already accomplished, and on this account I think that good ground exists for expecting that the anticipation entertained by us of its returning to its normal size will be ultimately fully verified.

"Should this sanguine expectation, however, not be realized, as is quite possible, and should, on the contrary, the left breast, instead of returning to, and remaining of, its natural size, resume the process of normal growth at present suspended in it, then, in this event, I will not hesitate to advise *its* removal also. And in the propriety of this recommendation, I think I will be sustained by the authority of Velpeau, whose words I here quote: 'It is also determined by the majority of the cases pointed out in the commencement of the article, that the extirpation of such tumors can be resorted to with advantage. Nevertheless, I should not propose the operation except in cases where the tumor is more or less free, and pendulous from a sort of root; that is to say, when the hypertrophy depends rather on the glandular tissue than on the other elements of the breast, or when the integuments are pretty loose, and sufficiently sound to allow of our preserving so much of them as may be necessary to bring together the edges of the wound.'"

Art. 257.—*On the Relations which exist between Eclampsia and Puerperal Mania.*

By P. Seydel, of Könisberg.

(*Vierteljahrschrift für Gerichtliche u. Offentliche Medicin*, t. xx., No. 2; *Annales d'Hygiène Publique*, October.)

No one doubts the powerful influence of puerperality upon the production and explosion of mental aberration; all periods of this state—pregnancy, parturition, child-bed, and even lactation—take an active part, although in different degrees. One point which has been less studied is the recognition of the various symptoms which influence the explosion of intellectual derangement. Dr. Seydel has eclampsia principally in view. He shows by well-chosen examples that this grave complication may, at whatever period it occurs, be accompanied and followed by mania, most frequently acute. Evidently both arise from the same cause; they may break out simultaneously, or one may succeed the other. During parturition mania may occur either in the prodromic period of eclampsia, or in the intervals of the different attacks, or consecutively, several days even after the cessation of the attacks. It is not a rare event to see a more or less prolonged interval of good health separating the pathological states; and mania is so much shorter in duration as the attacks of eclampsia have become more feeble, and the interval longer.

When mania succeeds immediately the soporific state it generally ceases in a short time, or rather terminates in death with typhoid symptoms. In this case there is most frequently a complication of fibrile organic lesions, especially of endometritis.

The form of mental alienation which succeeds eclampsia is, almost constantly, acute mania. Careful study of cases shows that this can readily be distinguished from delirium symptomatic of some puerperal organic malady. Albuminuria has not been sought for in every case, and it is impossible to decide, with regard both to mania and eclampsia, whether these maladies result from an acute morbid change of the kidneys, or from exaggerated arterial pressure. In all cases eclampsia constitutes a predisposition to puerperal mania, which may break out after a long interval, and the occasional causes ought to be sought for in more or less severe organic changes and in moral emotions.

Art. 258.—*On the Treatment of Puerperal Convulsions.*[1]

By Arthur Steele, Lecturer on Midwifery, Royal Infirmary School of Medicine, Liverpool.

(*Liverpool Medical and Surgical Reports*, October.)

The treatment of this disease has been the subject of much dispute owing to the different views held as to its pathology. With regard to blood-letting, the author considered it in some cases a remedy of great efficiency, in others equally powerful for evil. One main object of this treatment is to diminish the quantity of blood in the vessels, and thus to relieve congestion of the brain and spinal cord. Hence it is useful in the simpler forms of this affection, dependent chiefly upon stimulation of the spinal cord by excess of blood, or upon the mechanical pressure exerted by the blood on that organ, together with the counter-pressure of the distended brain on the medulla oblongata. It is indicated in general fulness of the vascular system, and where, during the violence of fits, there is extreme congestion and pressure of the vessels of the head and neck. When albuminuria or uræmia is present blood-letting is not well borne, but it is sometimes of service, if judiciously employed, by eliminating the *materies morbi*. As regards "*artificial delivery*," the plan formerly recom-

[1] Abstract of a paper read at a meeting of the Liverpool Medical Association.

mended, to empty the uterus in all cases as speedily as possible, is as dangerous in practice as it is unsound in principle. It is only when the presence of the fœtus in the uterus is the chief exciting cause, that its removal can do any good. No arbitrary rule can be laid down as to the mode of delivery, but the use of the forceps is preferable, if it can be applied. Chloroform is useful in many cases, if given judiciously, and not allowed to supersede the use of other means. In the course of the paper, the author gave the details of cases illustrating the various modes of treatment.

ART. 259.—*Cases of Puerperal Convulsions, with Remarks on the various Remedies used in the Treatment of this Disease.*

By THOMAS J. H. O'CONNOR, L.R.C.P. Edin.

(*Liverpool Med. and Surg. Reports*, October.)

The author related three cases, each representing a different type of this disease, the *hyperæmic*, the *anæmic*, and the *apoplectic*. In considering the different remedies, he depreciated *stimulating enemata* and *purgatives*, because they produced excitation of the uterus, which he considered to be the proximate cause of the disease. *Tartar emetic* he deemed inapplicable, unless the stomach was overloaded; in continued nauseating doses he believed it to be injurious. *Chloroform* is an invaluable remedy in anæmic and hysteric convulsions, where there is excessive pain, as in the slow dilatation of a rigid os; but it is not admissible in the hyperæmic form, where stertor and stupor continue in the intervals between the paroxysms. *Opium* is suitable in similar cases. The author expressed himself strongly against delivery by turning, except in cross births, and believed that delivery by the natural expulsive powers was the safest. In cases where the head has descended into the pelvis, application of the forceps or delivery by perforation is advisable, seeing that when the os is fully dilated, such interference does not increase the excitation of the uterus.

ART. 260.—*On Intra-uterine Injections in the Treatment of Diseases of the Womb.*

By Dr. FRANZ RIEGEL, of Wurzburg.

(*Deutsches Archiv fur klinische Medicin*, v.; *Schmidt's Jahrbücher*, No. 8.)

The question of the direct application of medicinal agents to the uterine cavity, notwithstanding the numerous experiments that have been made, especially of late, has as yet by no means been conclusively decided; with intra-uterine injections, this is especially the case. The ground of the existing differences in opinion does not consist so much in the fear of the penetration of the injected fluid through the Fallopian tubes into the abdominal cavity. Vidal de Cassis has proved the impossibility of such penetration so long as the injection is not made with excessive force. Numerous evil results from intra-uterine injections have, however, been described by various authorities, and for the explanation of these results the most varied hypotheses have been put forward; in one instance is the evil result attributed to too great a quantity of injected fluid; in another to the force with which this fluid was driven in; in one instance again to a peculiar reaction of the uterus against all foreign bodies; and in another also to the passage of the fluid into the open vessels of the uterine mucous membrane, and occasionally to a purely hysterical condition. Although the causes which may underlie in particular cases the unfavorable symptoms could never be explained, still it can be stated with precision that the consecutive symptoms must vary, since the affected organ in every case comports itself in a different manner. The method of injection, the form of the instrument, the temperature of the injected fluid, but especially the amplitude and previous condition of the outer and inner mouth of the womb, are also to be taken into consideration.

By attention to certain preliminary rules, intra-uterine injections may be performed without the least danger. The instruments hitherto used by preference are Braun's syringe, and the catheter curved in the form of a uterine sound, to the hinder extremity of which a large and suitable syringe can be fitted, and the catheter with a double current, as this is preferable. In Braun's syringe the side opening is so small that it is readily blocked up by mucus, so that a preliminary removal of pus or mucus from the uterine cavity by means of injections is rendered impossible ; also in cases where it is required to withdraw the injected fluid, this instrument is not to be thought of. On the other hand, it is possible, with Braun's syringe, to measure the force with which the injection is made; moreover, the side opening offers the favorable condition that the fundus uteri, in which there should be the greatest irritability, is touched by the fluid for the first time after the full force of the stream has been expended. Notwithstanding this advantage, most use is made, especially in France, of the *cathéter à double courant.* When Avrand reports that he has allowed 20 litres of fluid to flow through the uterine cavity, the thought forces itself upon us, that it was through the ready passage of the cervical canal which allowed so large a quantity to be injected without causing injury. Sims states rightly that by previous dilatation of the os internum the injection, formerly considered so full of danger, may be made with perfect safety.

The most suitable way of bringing about dilatation of the os uteri is by means of compressed sponge, which, before its introduction, is to be smeared, not at its base only but along the whole extent, with glycerine, so that no ulceration of the cervical canal is produced. The tent must be frequently changed, and always replaced by a thicker tent until the canal has been so far dilated as to admit the finger. During this process it is to be kept in view that the sponge be changed after from six to twelve hours, in order to prevent ulceration. After the os uteri has been dilated in this manner, not only is a passage prepared for the intra-uterine injection, but a more accurate diagnosis of the disease is rendered possible.

It is unnecessary to measure the uterine cavity with the sound before injection, in order to determine the amount of fluid to be injected, since the fluid is not to be retained within the uterus, but merely to be brought into temporary contact with the diseased organ. On the other hand, a previous close examination with the sound is to be urgently recommended, for the purpose of making out the presence or absence of peri-uterine affections and of adhesions. It is going too far to set up the presence of peri-uterine ulceration as a contra-indication. Before each injection the uterine cavity should be entirely freed of the secretion that exists within it ; in many cases injections of warm water suffice for this purpose ; in other cases, especially where there are large quantities of gross mucus, solutions of common salt and diluted alkaline solutions prove of use.

The temperature of the injection cannot be stated positively, as it must depend upon the object with which it is used in each case. The process of injection is so simple, that a minute description would appear to be superfluous. As a portion of the fluid passes away between the catheter and the inner surfaces of the uterus into the vagina, it is requisite, when using strongly-astringent or caustic solutions, to introduce a plug for the protection of the walls of this canal.

Exclusive of their application in labor and during childbed, injections have been used most frequently with regard to symptoms in menorrhagia and metrorrhagia, springing from very many causes. Very recently they have been applied by Cohnstein in the treatment of chronic infarction, both for the removal of catarrh of the membrane and against the infarction itself. By many English and American gynæcologists injections have been recommended for the treatment of all the various forms of endometritis and of ulceration of the cervical canal and the uterine cavity, and even for the cure of fibroid growths. Avrand has employed them in the treatment of metritis, endometritis, and abnormalities in the position and form of the uterus. Dr. Riegel speaks only of the results obtained from his own observation.

In cases of uterine hemorrhage there is, indeed, no surer method of arresting

bleeding than to bring some astringent or caustic fluid in direct contact with its source at the diseased mucous membrane. The agents applied, when indicated by symptoms, for the mere purpose of arresting bleeding, are, simple or iced water, a solution of alum, tannin, sulphate of copper, or chromic acid, and especially the liquor ferri, sesquichloride or tincture of iodine, all being always more or less concentrated, according to the severity of the bleeding. In more than one hundred cases the bleeding was arrested at one sitting, and, indeed, on several occasions, after between six and twelve ounces had flowed into the uterus. In many instances the bleeding did not return; more frequently a repetition of the injection was required on the following day; never was the application required to be repeated more than three times. In the majority of attacks the injections were applied when the bleeding had exceeded to a considerable extent the quantity of an ordinary menstrual discharge; when applied in such cases, they were never attended with more severe accidents than slight colic, and lumbar pains, slight contractions, and the like.

The next indication in pregnancy for the use of intra-uterine injections in Dr. Riegel's practice was the existence of endometritis, chiefly the chronic form. In consequence of the difficulty presented by the diagnosis of this affection, and of its varying forms and intensity, distension of the urinal canal by means of compressed sponge is a point of the greatest importance for facilitating, in the first place, a correct diagnosis, and next an effectual treatment. When the analogy of this disease with chronic affections of other mucous membranes is taken into consideration, we are taught that chronic inflammation cannot be successfully removed unless an acute inflammatory state be set up. With chronic endometritis it is necessary to convert the same into an acute form, in order, by means of the newly-established inflammation, to bring about absorption and removal of old inflammatory products. Relying upon this principle, Dr. Riegel endeavors to set up irritation in the mucous membrane by introducing sponge tents and injecting strong astringent or caustic solutions. For this purpose, concentrated solutions of tannin, nitrate of silver, liquor ferri sesquichlorati, and tincture of iodine are especially recommended; whilst with injections applied for arresting hemorrhage the catheter with a double current is preferable, in consequence of its capacity for injecting a large quantity of fluid. In the treatment of endometritis Braun's syringe is recommended. Any ulceration that may exist in the vaginal portion of the uterus, and in the cervix, are generally cured with the disappearance of the endometritis, but may be most quickly removed by the local application of solid sulphate of copper.

Dr. Riegel has also treated by means of intra-uterine injections that most frequent affection of the uterus, chronic metritis. The majority of cases which come under clinical observation have already reached the stage of connective tissue growth; consequently, that stage in which, as a result of irregular increase of the connective tissue, the uterus is generally more anæmic, but moreover, always presents here and there, large and blood-distended vessels. The most frequent cause of chronic infarction is no doubt to be sought for in childbed, in conditions which hinder the normal involution of the uterus. It would, therefore, be only possible to remove a chronic infarction where one can succeed in stimulating and accelerating the tissue metamorphosis and the vascular activity.

This object the practitioner has hitherto sought to attain through various means—partly through derivatives to the intestine, and the skin, and abstraction of blood; partly through irritants applied directly upon the uterus or its interior, as by the introduction of a sound, cauterization of the interior of the uterus with sulphate of copper; the introduction of intra-uterine pessaries, and the like. Until recently intra-uterine injections were applied only in isolated cases. Speaking from his own experience with this method, Dr. Riegel states only that in every case a longer time was required for the attainment of any result; so that, although the injection, except at the time of menstruation, was repeated every two or three days, a permanent result could not be obtained until after a course of treatment lasting for several months.

Injections act much more beneficially upon flexions than upon versions of the uterus, which latter condition they scarcely ever relieve. Although those

flexions which depend upon peri-uterine adhesions or cicatricial connections with the neighboring organs, must be considered as incurable, still indeed, a host of consecutive disturbances may, through injections, be deferred for a longer or shorter period. But it must be constantly kept in view that any dragging, and all attempts at elevation of the uterus by means of the sound, must be strictly avoided, so as not to cause contraction and fresh irritation, which might excite another attack of peritonitis. In cases of flexion without adhesion of the womb to neighboring organs, and which depends merely upon relaxation of the tissue, or otherwise owes its origin to some injurious condition, and which is often associated with increase of volume or with infarction, injections act in another manner. The treatment by intra-uterine injections must always be looked upon as a rational one for cases of this kind, so long as they have not come to the condition of complete induration, with considerable decrease of vessels. Two cases are reported by Dr. Riegel; in both instances, after the absence of adhesions had been made out, the sound was introduced for the purpose of rectifying the position of the uterus, and compressed sponge was introduced. In the first case, on the following day when the sponge tent had been removed, complete restoration of the position of the uterus could be brought about, and in the second case after the sponge had been introduced three times. Exclusive of its mechanical action, the chief effect of the compressed sponge depends upon the irritation it sets up as a foreign body, by which increased vascularity, contraction, and consequently increased absorption, are excited. Intra-uterine injections then serve to keep up the established state of irritation, and to retain the uterus in its restored position. In the first case six injections of tannin and solution of iodine sufficed to restore completely the uterus to its normal condition; in the second case, cure was perfected after a treatment lasting for six weeks.

ART. 261.—*Ice to the Spine in Menorrhagia.*

By WILLIAM C. CROOKS, M.D., of Philadelphia.

(*The Medical and Surgical Reporter*, August 22, 1868.)

The author gives his experience in the application of ice to the spine in several cases of menorrhagia. We quote three cases.

Mrs. S., aged thirty-five years, a native of Ireland; no children; no miscarriages; had for the past eight years been liable to attacks of menorrhagia; suffered greatly at times, for a number of years, with uterine disease, on account of which she had been under treatment by different physicians, and lately operated on for partial occlusion of os. This occlusion was supposed to be the result of the preceding treatment. On April 27th, 1866, menorrhagia returned, the flow very much increased in quantity. Astringent remedies were employed, both general and local, but gave only temporary relief. On May 5th, the first application of ice made to the spine, and directed to be retained thereto for two hours. In half an hour after the application was made, a sleep of an hour's duration was produced. The preparations of cinchona and iron were given internally. On the 5th, pain was greatly relieved, and the flow diminished to not more than two ounces in the twenty-four hours. The ice was reapplied as before. On the 7th, pain diminished still more, hemorrhage entirely checked, and did not again recur. The debility was great, and the preparations of cinchona and iron were continued. Beef-extract and a good nourishing diet were ordered. The patient, under this tonic treatment, soon regained her usual strength.

A young woman, aged nineteen, large, heavily-built, and plethoric. Menstruated at fifteen; married two years; no children. One miscarriage. This accident happened three months previously. Gestation had progressed naturally until this accident, which happened about the third month; discharged the product of conception. Had always menstruated regularly up to the time of conception. After this accident, for the first time she had excessive menstruation.

On the 10th of September I was summoned to see her. She had been flooding for twelve hours, during which time she had lost a pint of blood, as near as could be calculated. Bowels constipated and pain severe. At 8 P. M. ice was applied to the spine, and in twenty minutes sleep was produced, which lasted two hours. A large dose of castor oil was given to overcome the constipated condition of the bowels.

11th.—The discharge reduced to its normal quantity. Ice not reapplied. Antiphlogistic measures resorted to.

20th.—No recurrence of the excessive menstruation. Health regained. Medicine discontinued.

By using precautionary measures on the approach of each menstrual period, she has not as yet suffered from any return. The precautions I directed in this case are those which the known liability of any woman to menorrhagia should lead her to adopt with the return of each menstrual epoch—strict observance of the horizontal position, from the commencement of the discharge until it ceases, with care that the bowels are not constipated.

On the 24th May, Miss R., aged thirty, dispatched a messenger for me in great haste. On my arrival was informed, that three days previously Miss R. had, on coming down stairs, received a trivial injury by falling down three or four steps. No inconvenience whatever had been experienced, or pain suffered from the fall until the morning of the 24th, when the return of her menses was accompanied by an alarming hemorrhage.

In this case no treatment was indicated except that which would arrest the present hemorrhage. Ice was applied to the lower part of the spine, and retained thereto for two hours. The application was renewed three different times during the succeeding thirty-eight hours, at the expiration of which hemorrhage was under complete control.

28th.—No recurrence of hemorrhage; a little prostration from the loss of blood was all that remained, for which ferrated elixir of calisaya in dessert-spoonful doses was given three times a day.

The ice is to be broken up into small pieces about the size of an English walnut, and then put into the Chapman's spinal ice-bag (or in lieu thereof the common bladder may be used), the pockets of which are to be not more than two-thirds full, when you will securely tighten them by the attached screws, if the Chapman's bag be used, and if the bladder, a cord will answer the purpose.

Having the ice prepared as above, it is applied to the lower portion of the spine (in the region of the lower dorsal and lumbar vertebræ), and retained thereto from half an hour to two hours, as the exigency of the case may require, and renewed at intervals varying from six to twelve hours, until the desired effect is produced.

Special attention to the preparing of the ice should be given, for obvious reasons. The patient, if at all possible, must be placed on her back, and have the ice-bag applied to the spine underneath her; now, if the ice is not prepared correctly, or the bag or bladder more than two-thirds full, it will in the one case cause an irregularity, and in the other a globular mass which cannot be rightly adjusted to the spine.

ART. 262.—*Myomata of the Uterus, Broad Ligaments, and Ovaries; Calcareous and Suppurative Degeneration.*

By Dr. TYSON.

(*American Journal of the Medical Sciences*, October.)

At a meeting of the Pathological Society of Philadelphia, Dr. John Neill presented the specimen and furnished the following history:—

The tumor is from the womb of an unmarried lady, fifty-eight years of age, who had been riding out and eating heartily until five months ago.

The tumor, as the family called it, was noticed fifteen or twenty years ago, and many of our most eminent practitioners advised her to think nothing of it, but to maintain her general health. It increased very gradually in size, and at her death was not more than six inches in diameter.

She had been under my care only during the last four or six weeks, and suffered but little local disturbance—occasional pain down the left limb—though increasing, so that for the last three weeks she was confined to her bed from inability to move rather than from pain. Her skin was yellow, and when I first saw her she had vomiting and diarrhœa, which were, however, quite controllable. But her most prominent symptom was the loss of appetite, and complete disgust for food. She died from inanition, and within a few days previous to her death had a distressing, irritating cough

When I opened the abdomen, twenty hours after death, there was no distension of the intestines. The omentum was quite adherent to the front of the uterus. This seemed of the same size as recognized during life. The surface was irregularly covered with patches, nodules, and cysts, containing mostly greenish, fetid pus. The uterus was impacted in pelvis, and adherent to additional morbid growths, originating apparently in the broad ligaments. Many of the growths were extremely rough and dense, such as the ovary, which is presented. These roughnesses were limy and hard to cut. A portion of the uterus is also exhibited. When I cut or dug it out I opened several loculi or sacs containing greenish pus. The walls were extremely hard, infiltrated with lime.

In addition to its morbid-anatomy interest, the case gives several interesting points in its history:—

1. Its long duration and little inconvenience until recently (which she attributed to the tumor having been elevated by an India-rubber bag).
2. No constitutional disturbance.
3. No interior discharge, no blood, pus, or any offensive smell.
4. The formation of pus, or rather the degeneration of solids into fluids in some places, with but little chill, or creeps, and no fever.

Microscopic examination by Dr. Tyson showed the tumors to be fibrous myomata, which in their points of stony hardness had undergone calcareous degeneration. The contents of the cysts were purulent.

ART. 263.—*Case of Congenital Absence of the Vagina and Uterus, with full Development of the External Organs of Generation and Mammary Glands.*

By T. L. OGIER, M.D., of Charleston, South Carolina.

(*American Journal of the Medical Sciences*, October.)

The following case is recorded by Dr. Ogier:—

"Mrs. X., about four months married, placed herself under my professional care in consequence of her being affected with some imperfection of the vagina, as she and her husband supposed. On my first visit to Mrs. X., who was an interesting young woman, twenty-four years of age, about five feet three or four inches in height, with well-developed breasts and of general *embonpoint*, I found, on making an examination with my hand, that the vagina was only a short pouch, about two-and-a-half inches long. I told her she was differently affected than she supposed, and made an appointment for another examination on the following day. The next day I put her thoroughly under chloroform and made the examination. The mons veneris was full, and covered as usual with hair, the vulva perfectly formed, the clitoris was well developed, though not of extraordinary size; the meatus urinarius and internal labiæ were natural. Upon introducing the finger into the vagina, it was found to be only a cul-de-sac, three inches long, and very narrow at its internal extremity; no os uteri could be felt or seen in any direction. The forefinger of the left hand was now passed up the rectum, whilst the right was in the vagina: no uterus or anything like it could be distinguished. I passed a metallic bougie through the meatus urinarius into the bladder; the end of this could be distinctly felt through the parietes of the bladder and rectum, and could also be felt by pressing firmly on the pubic region. By the left forefinger in the rectum, and the forefinger of the right hand in the vagina, I found that there was a space about two inches

in length between the internal extremity of the vagina and the cavity of the abdomen; this space contained no solid body, but seemed made up of cellular tissue. I felt so sure of this, that I made an incision into the tissue at the internal extremity of the cul-de-sac, and introduced a short rectum bougie into the vagina, pressing it firmly against the cut made into its extremity, and retained this in position by a bandage, thus preventing the contact of the edges of the cut. On the third day after I cut still a little deeper, applying the bougie as before. This pressure I kept up for two days; at the end of that time, I found on examination by the rectum, that there was not more than one-third of an inch between the internal extremity of the vagina and the abdominal cavity. I did not consider it prudent, therefore, to make any further incision into this tissue. I continued, however, the use of the rectum bougie without much pressure: at the end of four weeks I found that nearly one inch and a half more of vagina had been gained, making its entire length nearly five inches. The dilatation was now continued with a larger sized bougie, more to increase the width of the vagina than to increase its length; for, as before mentioned, I considered it dangerous to decrease the thickness of the wall between the internal end of the vagina and the abdominal cavity more than had been already done.

"During the six months that this lady was under my care, I examined in every way to find the rudiment of a uterus, and could not find the slightest trace. I requested my friend Dr. R. Kinloch to assist me in the examination, and after the most careful search it was evident that the uterus did not exist.

"I am not aware of any mode of examination by which it can be determined with certainty that the ovaries are present or wanting, other than that of passing one forefinger up the rectum and pressing with the other hand on the iliac regions. In this examination, if the ovaries are large, or the subject thin, they can be distinguished; but in a doubtful case, where the woman is not emaciated, it is extremely difficult to find the ovaries, or to say whether they exist or not; a post-mortem examination alone can determine the question. As regards the uterus the matter is different. With Sims' method of 'a finger in the rectum and a sound in the bladder, alternating the latter with supra-pubic pressure,' the existence or not of the uterus can with certainty be ascertained; but if the ovaries did exist in this case, they of course could not perform their peculiar functions, there being no opening anywhere for the Fallopian tubes. Prof. Hewitt, in his excellent book on the diseases of women, mentions a case coming under his care of entire absence of the uterus in a lady twenty years of age, 'presenting the following conditions: pudendum, covered with hair; labia majora, well developed; vagina, represented by a mere little pit, admitting the uterine sound only half an inch; no uterus or hard body to be discovered between the bladder and rectum high up; signs of ovarian activity had been observed on two or three occasions, giving reason for the belief that the ovaries existed; the breasts were well developed.'

"Dr. J. Marion Sims says he has seen five cases of absence of the vagina, in all of which there was no uterus; but he does not give the details of these cases, and we do not know therefore how the physical and mental development in these women were affected by this malformation.

"In the case under consideration, nothing was wanting in any of the attributes of woman, such as we find her with complete and perfect organization, except the absence of the menses and the inability to become pregnant. Sexual intercourse with her husband was agreeable and gave pleasure, as in ordinary cases. She was highly educated, an accomplished musician, a great lover of poetry, and wrote it well herself; was very fond of children, and her house and establishment were arranged with such taste as we see only when such places are presided over by an accomplished and tasteful woman.

"The old and received axiom, therefore, does not apply in her case, that *propter uterum solum mulier est id quod est.*"

Art. 264.—*On Fibro-Cystic Tumors of the Uterus.*

By Dr. E. Kœberle.

(*Gazette Hebdomadaire*, No. 16.)

Dr. Kœberlé gives the following remarks in connection with a report of a case in which he had removed by gastrotomy a large fibro-cystic growth from the womb:—

"Fibro-cystic tumors of the womb have been rarely observed, and their diagnosis has, up to the present time, been considered impossible. But fourteen cases have been recorded, two of which, those of Kiwisch and Cruveilhier, were recognized after death, and were not subjected to any surgical interference. The preceding case is the only one in which the diagnosis was made out before the operation. In another case operated upon by myself, and believed to be an interstitial fibrous tumor of the uterus, some small collections of fluid were discovered at the time of the operation. All the other cases were taken for cysts of the ovary, and operated upon as such. Operations were performed in fourteen instances. In four cases the operation was unfinished, and in three it resulted in death. One patient in whom but a single exploratory incision was made, recovered. Of the eight completed operations, four were fatal and four resulted in complete recovery. The difficulties presented to operations of this kind are sometimes very great, which fact explains the considerable proportion, one-third, of those that remain unfinished. Mr. Spencer Wells recommends that the operation should be broken off whenever the surgeon has made out that there are very close connections between the tumor and the uterus. The surgical proceedings of this kind have been rejected alike by surgeons and by the most distinguished gynæcologists. M. Nélaton has declared that 'all operations directed against interstitial fibrous tumors are impracticable.' Boyer, in the same manner, formerly stated with regard to ovarian tumors, that 'the least amount of reflexion suffices to show the danger and impossibility of their extirpation, which indeed should never be undertaken.' Sir J. Simpson thinks that extirpation of fibrous tumors ought to be regarded as an absurd operation, a judgment confirmed, according to this authority, by experience. 'In fact,' he says, 'when the disease has attacked the fundus of the uterus extirpation of the organ is an operation attended with such hazard that the surgeon should have no hesitation in declaring that it ought to be rejected as a proceeding altogether opposed to sound surgical doctrines.'

"Notwithstanding these anathemas, I have on six occasions performed extirpation of the womb for fibrous tumors, and three times with success. But I reject the operation whenever the tumor does not seriously compromise the functions of the economy, and where there is no tendency for it to develop itself in an excessive manner.

"The diagnosis of fibro-cystic tumors has up to the present time been declared impossible by almost every author. Scanzoni alone has stated that means will be found sooner or later for recognizing them. In the preceding case an exact diagnosis was made out.

"It may be established—

"1. By the face being more or less dark and injected, as may be usually observed in females affected with fibrous tumors of the uterus.

"2. By the uneven and variable consistence of the tumor.

"3. By the results of a puncture. The trocar may traverse the more or less condensed fibrous portion of the growth, which furnish but a small quantity of pure blood; whilst, when penetrating into a part hollowed by cavities, it gives issue to a yellow serous fluid analogous to ordinary serosity, or to lymph which contains coagulable fibrin. The liquid sometimes contains crystals of cholesterine, and may be more or less thick, purulent and hemorrhagic: but never presents the variable viscosity found in the fluid from ovarian cysts.

"4. By the more or less firm consistence of the growth of the tumor after evacuation of the fluid.

"5. By the connections of the tumor with the uterus, and by the symptoms generally presented by uterine fibrous tumors.

"Fibro-cystic tumors may be sub-peritoneal or interstitial. Their development may be very slow or very rapid according to the case, as occurs likewise with cysts of the ovary. They have seldom been met with before the age of thirty. These growths have been divided by M. Cruveilhier into two distinct categories. On the one hand, one may meet with irregular cysts without proper walls, which are developed consecutively to an œdematous infiltration of the fibrous body, when the interlobular spaces slowly dilate and finally break down under the influence of the interstitial fluid. Irregular cavities are thus formed, which are more or less analogous to true cysts without distinct walls. The fluid contained in those cavities is serous, limpid, yellow, like the serosity of œdema, sometimes hemorrhagic. On the other hand, cysts with more or less regular cavities and smooth walls are formed in the tissue of the fibrous growth. The fluid contained within these cavities is limpid, yellow, fibrinous, like lymph, and spontaneously coagulable. The cavities generally communicate by well-defined openings. The large cavities are spherical, whilst the smaller accessory ones are flattened and form more or less irregular sinuses. These cysts probably result from the progressive dilatation of lymphatic vessels. They are always consecutive to some mechanical obstacle to the circulation of the lymph."

ART. 265.—*Practical Remarks on Fibrous Tumors of the Uterus.*

By Dr. A. LINAS.

(*Gazette Hebdomadaire*, No. 5.)

Dr. A. Linas discusses the question of the advice to be given when a physician is consulted upon the matter of marriage and upon its remote or immediate eventualities, by a female affected with a fibrous tumor of the uterus. The answer to this problem is based upon certain facts relating to the clinical history of these morbid growths.

Fibrous tumors of the womb are divided, with regard to their seat, into interstitial or intra-mural, sub-peritoneal, and intra-uterine growths.

Intra-uterine fibrous tumors in most cases finally acquire a stalk, and become fibrous polypi. As they are then always accessible to the hand and instrument of the surgeon, and can, consequently, be removed by operation, the question of marriage with regard to growths of this kind can manifestly be cut short by the écraseur, the scissors, or the knife.

With interstitial and sub-peritoneal fibroid growths, the case is different. These two varieties seldom admit of surgical interference. Gastro-hysterotomy is the only operation adapted for them, and this proceeding, notwithstanding the success obtained by M. Kœberlé, will probably have but few supporters, and acquire no favor in surgery.

In spite of appearances, the sub-peritoneal fibrous tumors present as much and even more gravity with regard to the question of marriage than the interstitial growth. They do not indeed prevent fecundation, but they certainly present a grave obstacle to the normal development of pregnancy. Sometimes sessile, implanted in the uterus by a large base, and thus forming a thick and massive projection into the pelvic cavity; at others, pedunculated, movable, and floating in the pelvis; they very often confine the womb in the concavity of the sacrum. There they constitute an unchangeable mass, which is a stumbling-block to pregnancy. Miscarriages are produced habitually on the fourth or sixth month of gestation. If by chance pregnancy has followed the regular course of its evolution, the labor is most frequently a difficult one, in consequence of the mechanical and the sometimes almost insurmountable obstacles to the passage and expulsion of the fœtus, or of hemorrhage frequently compromising the life of the mother. For these reasons marriage should not be recommended to females affected with sub-peritoneal fibrous tumors, although they may be young, and in a condition for conception.

With regard to interstitial fibrous tumors, M. Linas states that these

growths present themselves not only in married women but also in virgins. The period between twenty-five and thirty-five years, when the uterine activity is at its height, is most favorable for the development of this variety of fibrous growths. Their presence is habitually revealed by an increase in the volume of the uterus, by abdominal development, by the manifestation of a tumor in the hypogastrium, by derangements of menstruation, as superabundant menstrual discharge, and menorrhagia during intermenstrual epochs, and, finally, by disturbance of micturition, especially dysuria and retention of urine.

It is important to recollect that some of the above symptoms may be absent. The only two symptoms which excite suspicion and fix the attention, are the hypogastric tumor and the retention of urine at a menstrual epoch. It is probable that menstrual hemorrhage, and intermenstrual menorrhagia, do not occur whilst the fibroid growth remains purely interstitial; these symptoms are doubtless not prevented until the tumor in the course of its development has come into contact with the mucous membrane of the uterus and caused irritation, ulceration, and destruction of this layer.

A second point of very great importance in the solution of our problem is to consider the reciprocal influence of pregnancy and delivery on fibrous bodies, and of the latter upon gestation and parturition.

Intra-uterine fibrous growths are not incompatible with fecundation and pregnancy; they do not become a cause of sterility, except when, in consequence of an enormous size, they entirely obliterate the cavity of the uterus and the orifices of the Fallopian tubes. Except in those cases where the encounter of the spermatozoa and the ovum is actually impossible, impregnation may take place and lead to fecundation. Then one or other of two phenomena take place: either pregnancy is interrupted in its evolution, and the product of conception is prematurely expelled, or pregnancy follows in its regular course until the end. The former case—abortion—generally occurs when the tumor by its size opposes the free expansion of the womb and the normal development of the ovum; the membranes and placenta may also be prematurely detached by hemorrhage.

In the second case (that of the regular course of gestation), the fibrous growths participating in the nutritive processes set up in the womb by gestation increase in vitality and vascularity, and undergo, like all the other anatomical elements of this organ, true hypertrophy: so that one of those growths, which at the commencement of gestation was no larger than a nut, may acquire, at the epoch of parturition, the size of an orange. According to Dr. Ashwell, fibrous bodies undergo softening at the last months of gestation, increase in vascularity, suppurate, and perish. This course sometimes occurs, but is exceptional. Generally the tumor softens without suppurating; pregnancy follows its usual course; labor takes place at the proper time, and the growth is expelled spontaneously, sometimes a few hours after the fœtus, at others, and most frequently, after a period varying from four to twenty-five days.

Cases have been reported of rupture and inversion of the uterus after labor, owing to the presence of fibrous tumors. Inversion is very rare with interstitial fibrous growths; it is more common with polypi.

The fibrous tumor may also, in consequence of its size or faulty situation, render irregular the contractions of the uterus, prevent the descent of the fœtus, restrict the diameters of the pelvic orifices, and, consequently, present an important obstacle and serious complications to parturition.

The most common and most dangerous accident during and after labor is hemorrhage. Sometimes it produces a loss abundant enough to give rise to serious forebodings; frequently it is more dangerous by its persistence and obstinacy than by its profusion. At times the bleeding stops spontaneously, particularly if the fibrous growth be of small size, or if, being large, it is about to be eliminated by uterine contraction.

As the conditions, on the one hand, of the harmlessness of interstitial fibrous growth of the uterus may be thus recognized, and on the other hand their conditions of danger, both with regard to the health of the patients and to the course of pregnancy, what ought to be the conduct of the physician when he

is consulted on the question of marriage by a woman affected with a tumor of this nature?

Ought marriage to be absolutely prohibited, or may it be at least authorized, if not recommended, in certain cases?

Any project of marriage ought at once to be forbidden where there are serious menstrual disturbances or menorrhagia. These symptoms must be increased in intensity by conjugal approaches; and they render the woman liable to sterility, or almost invariably to miscarriages.

If the tumor be indolent, of small size, and provocative neither of menstrual disturbances nor of menorrhagia, what should be done?

In instances of this kind it is necessary to take into consideration the age of the woman, and the conditions and aim of marriage, and to distinguish three classes of cases:—

1st. If the woman be young, if she be in the plenitude of uterine activity, it would be imprudent and even rash to take part in marriage; for this would result in exposing the patient to the danger of genital excitement, to hemorrhagic affections, to the possible chances of arrested pregnancy, and to the perilous consequences of a laborious, uncertain, and complicated pregnancy.

If the fibrous growth be easily accessible, enucleation may be recommended and attempted without great risk. If, however, the tumor be seated in the walls of the uterus, the operation presents so much difficulty and is attended with such uncertainty that it ought not to be recommended unless with extreme moderation. When the tumor is very large, it is perhaps the best plan to decide upon non-intervention.

2d. Here we will suppose the woman to be no longer young, but between the ages of forty and forty-five years, that is to say, at the decline of uterine life, a period at which the passions are calm, the sexual ardor almost extinguished, and when the fibrous tumor has a tendency to become stationary. Here the dangers are less important, and the perils to be feared are not so great. The physician need not in this case oppose marriage absolutely, particularly if the fibrous growth be of small size, and if it does not give rise to any special symptom. Advice, however, should be given with very great reserve, and all the risks attending pregnancy should be explained. The responsibility of the adviser is thus avoided if any bad symptoms should come on after an abuse of marriage.

3d. The case of a woman who has passed beyond the age of menstruation, or is more than forty-five years. Here the conditions are still more favorable. The fibrous tumor has now become stationary or has undergone atrophy, since the uterus has commenced a physiological sleep, in which the genital sense is obliterated and parturition is a sure event. At this age there is no hope of posterity. The marriage is generally contracted for convenience or interest, to gain a companion for old age, to unite two fortunes, to increase the comforts of old age, in short, to realize more or less the legend of Philemon and Baucis.

Under these conditions, marriage is not dangerous; and the existence of a fibrous tumor ought not to be considered as a reason for opposition to such a step. Still, even in this third stage, it is the duty of the physician not to leave the interested person in ignorance of the ordinary course of fibrous growths, the symptoms to which they may give rise, even after the cessation of menstruation, and the different modes of termination to which they are liable. In this manner the patient will be better able to decide her own case, and her medical attendant will have nothing wherewith to reproach himself.

Art. 266.—*Certain Forms of Uterine Cancer.*[1]

By C. F. F. Routh, M.D., London.

(*British Medical Journal*, September 18.)

The author, after alluding to the hopeless misery to which these cases were formerly consigned, declared his belief that occasionally uterine cancer was curable. He affirmed—1st. Cancer was not necessarily a blood-disease—*i. e.*, in all cases primarily—but was often due to local poisoning or the co-operation of another cause. 2d. Even where it was a blood-disease, this did not necessarily exclude local treatment as curative, as in cases of scrofula, secondary and tertiary syphilis. 3d. Hereditary taint did not preclude hope of cure, as in gout and several skin affections; and in cases of spontaneous cancer cured by sloughing, or inflammatory seizures elsewhere. 4th. Recurrence was also not an argument for non-interference; here he quoted Messrs Moore and De Morgan, and exemplified his position by recurrent fibroid. 5th. In these cases the temporary comfort derived from temporary removal of the cancer, even if not finally curative, and obliged to be repeated, was so great as to justify treatment. 6th. Uterine cancer was especially, as a rule, less rapid than cancer elsewhere. Dr. Routh then proceeded to speak of the action of remedies, stating that he derived *primâ facie* encouragement from the known rule that some medicines singled out particular tissues in their action, and that these newly-formed products had less vitality than surrounding healthy parts. Dr. Routh next referred to the local destructive remedies. Iodine, carbolic acid, and bromine were the three to which he gave the preference. Volatility, power, and a disinfectant quality were here the three necessary virtues required. Phosphorus and fluorine might hereafter be found useful; but when the mass was large, the red-hot iron or écraseur should be used first. The author then touched on the use of injections into the tumor, chiefly by citric, acetic, and carbolic acids. His experience led him to discountenance their employment in uterine cancer, as almost invariably doing harm. The compact nature of uterine tissue rendered injection very difficult of accomplishment. If he used injections at all, they were bromine injections, and purely as destructive agents. Dr. Routh then alluded to the plan he adopted in such cases. Referring to a former paper, published in the *Obstetrical Transactions*, he said more extensive experience had led him to be more cautious. Still, upon the whole, he could not but speak favorably of the bromine treatment. He would say—1st. It gave good prospect of cure in epithelioma, where the uterus is not fixed, nor vagina and rectum involved. But, 2d, partial fixity of the uterus was not always a bar to interference. 3d. It promised to do less good in cases where the fibroid element predominated in the cancer. 4th. It is only palliative in cases of fixity of uterus, and where the rectum and vagina were involved, although even in such cases it would give much comfort, and prolong life. The author then detailed the mode of its application, and the great caution necessary in so doing, and in the preparation of the solution. Internal remedies were then dwelt upon. These should fulfil four indications. 1st. To purify the blood. Arsenic and bromides internally were chiefly recommended to do this, while iodides were condemned. 2d. To improve the quality of the blood. Tonics, and iron especially. 3d. To allay pain. Conium and nepenthe were advised as useful, and the endermic method of giving morphia and atropine. Blisters, also, were much praised. 4th. To prevent local infection. Disinfectants were stated to be indispensable, used as diluted injections within the vagina. Lastly, Dr. Routh pointed out the importance of rest of mind, avoidance of sexual excitement, and cold, depressing, or feverish seizures, all of which were calculated to increase the local affections, and make the cancer acute, as was proved by the history of some of his cases. Twelve cases were given, some of which were very much advanced

[1] Abstract of a paper read at the thirty-seventh annual meeting of the British Medical Association.

on beginning the treatment. Although all but two were greatly benefited, and life was prolonged with much comfort, six ultimately died. One of these was a case of corroding ulcer of the womb, and one of scirrhus. Six recovered, as far as could be learned, and one, also a case of corroding ulcer, recovered completely, the patient having since had a child.

Art. 267.—*New Vaginal Speculum.*

(*Medical Press and Circular*, December 8.)

At a recent meeting of the Philadelphia Obstetrical Society, Dr. Albert H. Smith exhibited a new form of vaginal speculum, which had been made at his suggestion by Mr. Kolbe. It is described at length in the *American Journal of Obstetrics* for November.

It is in form a bivalve, having a double movement, giving a parallel separation of the blades, and also the ordinary angular separation. This double movement was suggested first by Mr. Robert Ellis, of London, and adapted by him to his "new expanding" speculum, described in the *Transactions of the Obstetrical Society of London* for 1867; but his instrument, so far as appears, has not been brought much into use. Mr. Kolbe recently has made a very neat and simple modification of Ellis', giving a very useful instrument, as compared with any form of valve speculum previously in use.

Dr. Smith's speculum, adopting this principle of a double movement, is so constructed as to act as a double vaginal retractor, having the blades separate throughout their entire length upon one side, and connected by a square bar upon the opposite side, along which the blades slide with an independent motion. This movement is effected by means of a right and left screw placed in front of the bar, passing through the lower end of the pivot slides which move upon the bar, and to which are fastened the blades. This right and left screw is operated by means of a flat head at one extremity, the turning of which causes both blades to recede uniformly from the centre of the bar, making a parallel separation without any change in the angle of the blades towards each other. The angular movement is effected by the handles of the blades working upon the pivot-joints by which the blades are connected with the bar; and as each blade moves independently of the other, each requires its separate adjustment for retaining it in position; this adjustment being a screw and nut attached at one end of the blade, and the other passing through an eye upon the slide.

The blades are short, being only 3¼ inches in length, allowing the cervix to fall forward toward the vulva, entirely within reach of the finger, which condition, with the opening and separation of the blade entirely upon one side, enables the operator to have complete command of the cervix with the finger while the speculum is in position, the vaginal walls being simply kept out of his way, without any interference from the instrument with his manipulations—an advantage which is not found in Ellis' or any other valve speculum, having the vulvar aperture a closed ring.

The advantage of this arrangement will be manifest to any one accustomed to use the speculum, even in the most ordinary cases of uterine disease. This speculum is easily introduced, retains itself without the slightest difficulty, and exposes the cervix with a completeness that no other single self-retaining instrument will do. Thomas' speculum, so much used in New York city, gives an admirable view of the cervix, but requires to be held in position continuously, thus involving either the aid of an assistant or the constant operation of one hand of the operator. Dr. Smith's speculum may be introduced with the convexity of the blades either antero-posteriorly or laterally. After introduction of the point towards the sacrum, the angular expansion of the blades enables the operator to find the cervix with little difficulty, when the movement of the screw separates the anterior portion of the blades, putting the walls of the vagina upon a stretch, allowing the cervix to fall forward in easy reach of the finger, which can be brought to bear upon its whole surface as far as the vaginal cul-de-sac. The entire openness of one side of the speculum facilitates

the digital examination, as well as the investigation of the condition of the vagina, and especially the urethra and adjacent tissues.

In introducing a sponge-tent, so unsatisfactory an operation through any ordinary speculum, great advantage is given from the opportunity of ocular and digital examination, the tent being grasped tightly by the forceps and directed by the finger in the vagina, without coming in contact with the vaginal moisture. The passage of the uterine sound is rendered much easier than with the speculum of ordinary length, the uterus not being forced upward and backward, and being allowed more of its natural mobility. In ligating or excising a polypus or other growth from the cervix, the advantage of combined sight and touch will be very easily comprehended.

(c) CONCERNING THE DISEASES OF CHILDREN.

ART. 268.—*A Contribution to the Clinical History of Variolous Disease occurring in Children and Minors.*

By WILLIAM PEPPER, M.D., one of the Physicians to the Philadelphia Hospital.

(*American Journal of the Medical Sciences*, October.)

After an elaborate paper the author gives the following conclusions :—

1. That vaccination appears to furnish almost complete protection against the occurrence of either varioloid or variola during the first six years of life ; the importance of which result is enormously increased by the additional fact that all the fatal cases enumerated occurred under four years of age.

The only cases which necessitate a modification of the claim for vaccination of absolute protective power during the first six years of life are two ; one of discrete varioloid, and one of discrete variola, in both of which vaccination had been performed two years previously. Although there is some reason to assume that in these cases there may have been imperfection in the vaccination, the author does not care to insist upon it. In another case, however, where it was stated that vaccination had been twice unsuccessfully performed, and yet fatal confluent variola occurred at the age of twelve months, Dr. Pepper can have little doubt that the failure of the operation was due to the employment of inert virus, or to the neglect of proper care on the part of operator or parent.

2. That in subjects not vaccinated, the greatest susceptibility to the variolous poison seems to be during the first two years of life, at which time the form of the disease is very apt to be confluent and in a large proportion of cases fatal. The same tendency for the disease to assume the grave confluent form of true variola in unprotected subjects may be seen, though to a less degree, at all ages ; thus, in 16 cases at all ages, where vaccination had never been performed, there were but two cases of varioloid, while there were four cases of discrete and 10 of confluent variola. Eleven of these cases occurred under 4 years of age, 2 being cases of varioloid, 1 of discrete and 8 of confluent variola ; while 5 occurred over five years of age, and presented three instances of discrete and 2 of confluent variola.

3. That when owing to any cause, whether from possible inertness of virus, imperfect insertion, or idiosyncrasy on the part of the subject, the vaccination fails, the operation should be repeated at short intervals, varying the virus and perhaps the mode of insertion, until success is obtained or all danger of exposure to contagion ceases. And in this latter case the attempt should be renewed after a few years' interval, or whenever the least danger of exposure to contagion arises.

4. That in very many cases, however successfully vaccination may have been performed, its protective power becomes exhausted after a number of years. In 15 cases where variolous disease occurred after successful vaccination, the interval was two years in 2 cases ; six, seven, and eight years each in 1 case ; and from ten to seventeen years in 10 cases. It would appear from this, that, although there is very little risk when vaccination has preceded the exposure

to contagion by so short a period as two years, vaccination should still be practised to insure entire immunity, and that the necessity for revaccination becomes more and more urgent with every additional year's interval.

5. That when the protective power of vaccination has thus been in course of time exhausted, the subject may contract any form of variolous disease. Thus, of 15 cases occurring in those who had been successfully vaccinated, 6 were cases of discrete varioloid; 5 were cases of discrete, and 4 cases of confluent variola.

6. That, notwithstanding this possibility, the chances are very much more in favor of an attack of varioloid or a mild form of variola when the subject has been vaccinated successfully, no matter at how long a distance, than if this operation had never been performed. (See Conclusion 2.)

Thus, while of 16 cases occurring in unprotected subjects, there were only 2 cases of varioloid, but 4 of discrete and 10 of confluent variola, we see that of 15 cases which had been previously successfully vaccinated, there were 6 cases of varioloid; 5 of discrete and 4 of confluent variola.

7. That, although the above tables furnish meagre evidence of a positive kind as to the absolute power of vaccination to protect against death from variola, they furnish strong negative evidence in its favor. For we see that among children unprotected by vaccination, under the age of four years, 8 cases of confluent and 1 case of discrete variola occurred, with 5 deaths; while among the very much larger number of children of the same age exposed to the same contagion, but protected by previous vaccination, there occurred but two cases of variolous disease, and both of them mild and discrete varioloid.

8. The only observations which bear upon the question of the influence of vaccination performed during the incubation of variolous diseases are two; in one it was performed almost two weeks before an attack of discrete varioloid, in a child three years old; and in the other, five days before the first symptom of an attack, which proved to be confluent variola, in a boy twenty-one months old.

There seems no longer room for doubt that, if vaccination is performed during the incubation of variola, at such a time that the vaccine eruption appears before the variolous, this latter will be modified, and, in the vast majority of cases, favorably.

But there is no reason to suppose that when the vaccine eruption does not make its appearance, the introduction of the virus modifies in the least degree the ensuing variola. The fact that one of the children so vaccinated was one of the only two cases of varioloid which occurred among 9 cases of variolous disease under the age of three years, is probably to be explained on the supposition that there existed so slight a susceptibility that the child would have contracted merely a modified form of variola; and that vaccination would have failed had it been performed several weeks earlier.

In the other case the operation of vaccination preceded the first marked symptoms of variola by only five days, a period too short to afford much hope of impressing the system. It must be added, that during the prevalence of this epidemic of variola the author vaccinated many children, who were fully as much exposed to contagion as those whose cases form the basis of this article, and that in no instance where the operation was successful, nor in any other than the two above cases, where the system was unsusceptible to the vaccine virus, did the child contract any form of variolous disease.

Finally, it may be safely laid down as a rule of practice, that whenever an individual (especially a child) who has never been vaccinated, or only at a distance of two or more years, has been exposed to the contagion of variola, vaccination should be immediately performed, unless it is positively known that the stage of incubation has so far advanced that the vaccine disease will not have time to be developed before the appearance of the variolous eruption, unless, in other words, the initial symptoms of the variolous disease have appeared. It will be remembered that Eichhorn recommended the performance of vaccination during the prodromes, or even on the first day of the eruption of variola; but, so far as we are aware, no other observers have found this practice followed by favorable results.

It remains to consider the influence of vaccination upon the probability of disfiguration in any subsequent attack of variolous disease. Among the 33 cases reported there were but three instances in which pitting occurred, no local application having been made with a view to prevent it, but in all of these the disfiguration was marked. Two of them occurred in children, aged six months and six years respectively, who had never been vaccinated; the third, in a girl of eighteen years, who had been vaccinated successfully seventeen years before. In two other cases, very slight disfiguration occurred despite the use of local applications; one of them was a lad, aged eighteen years, who had been vaccinated thirteen years before; the other lad, aged twenty years, who had never been vaccinated.

The degree of susceptibility of the system to the variolous poison is the all-important question, and if this be very marked (no matter whether vaccination have never been performed, or, having been performed, its protective influence has to a great extent passed away), the resulting disease may present all the phenomena of grave variola, and is surely entitled to that name. Nor is this question merely a theoretical one; for the application of the name varioloid to all forms of variolous disease occurring after vaccination certainly tends to create the impression that all such cases are necessarily mild, that their duration will be comparatively short, and that the eruption in particular will run through its stages rapidly, and leave no disfiguration.

The above conclusions are merely confirmatory of those which have been previously obtained by the study of many thousands of cases in all parts of the world. While pointing out the facts that the protective power of vaccination is not always complete, and that it is very liable to become exhausted after the lapse of some years, they point out still more clearly the inestimable value of the operation.

Art. 269.—*On the Temperature of Children in Health and Disease.*[1]

By James Finlayson, M. D.

The observations which Dr. Finlayson had formerly submitted to the Society, showed that the temperature underwent a conspicuous diminution in the evening in healthy children. He now briefly sketched the course of the temperature in some of the chief diseases of childhood, and supplemented his own cases by those of other English and German observers. He considered the thermometer seldom of much use in the diagnosis of doubtful cases of measles and scarlatina. In both diseases there was often an undoubted attack while the temperature could scarcely be said to be abnormally high; while the sudden rise and the degree of elevation usually observed in scarlatina might be simulated by febricula or tonsillitis. In the diagnosis of enteric fever in young subjects, much assistance and confirmation had frequently been obtained; also in the diagnosis of tubercular affections. Dr. Finlayson concluded by submitting the following propositions as to the value of the thermometer in the diagnosis of children's diseases. 1. With a strictly normal temperature observed morning and evening (*e. g.*, for two days), we may affirm the absence of fever (*pyrexia*). 2. The rise from the normal state to a temperature of 104 deg. or 105 deg. Fah., in the course of a single day, precludes the idea of typhus or enteric fever. (It does not, however, exclude scarlatina.) 3. The thermometer is of much service in the enteric fever.—*a.* A distinct elevation of temperature may assist or confirm our diagnosis of enteric fever in cases where the pulse and general symptoms seem but little in accordance with the idea of fever at all. *b.* The peculiar mode of increase of the temperature during the first four days of this fever—gradual from day to day, and yet with morning remissions—is reckoned, by Wunderlich, to be diagnostic of this disease. He warns us, however, that the rise of the temperature may be more rapid in the child than in the adult. *c.* A continued high temperature may convince us that a patient is still the victim of enteric fever, although he may profess to be, and seem to

---

[1] Abstract of a paper read at a meeting of the Manchester Medical Society, October 6.

be, quite well. *d.* The peculiar oscillations of temperature in the recovery from enteric fever, may, in some cases, clinch the diagnosis where it has, all along, been more or less doubtful. 4. The thermometer gives little or no assistance in those doubtful cases of scarlatina and measles where the rash is uncertain, or before it appears. 5. In tubercular diseases, the indications of the thermometer are most valuable. The reversal of the normal relation of the morning and evening temperature is most striking. In one or two instances I have been led to make a diagnosis—proved to be correct after death—mainly on the strength of the thermometrical observations. So as to be valuable, careful observations require to be made in the morning and evening, for some time. I cannot, however, subscribe to Dr. Ringer's statement, that the evening temperature is *always* above the normal; at least, if by normal we mean the figures usually quoted hitherto. 6. In pneumonia and many other diseases, the temperature is more a matter of clinical interest than of diagnostic value; sometimes it may confirm a diagnosis made on other grounds. In cases where the rise in temperature precedes other signs and symptoms, the indication is usually too vague to be of much use. Even such obscure indications may, of course, have some prognostic value.—Dr. Wm. Roberts remarked, that he found he was using the thermometer more and more every day. He had, however, become aware of the existence of many pitfalls in the way of any one who relied on it apart from a careful consideration of other circumstances. He agreed with Dr. Finlayson, in regarding the temperature as especially valuable in tubercular disease and enteric fever. Dr. Thorburn mentioned the case of a child who died in convulsions at the onset of scarlatina, half an hour after its temperature had been recorded at 99 deg. Fahr. Dr. Finlayson pointed out the advantage of taking the temperature in the rectum in the case of children. In the axilla twenty to thirty minutes were required to secure accurate results, and great precautions were necessary. In the rectum the maximum was reached, with certainty, in a few minutes. He regarded five minutes as perfectly inadequate to yield trustworthy measurements in the axilla at any age.

Art. 270.—*Extraordinary Vitality of a New-born Infant.*

(*Edinburgh Medical Journal*, December.)

The following case reported to the *Chicago Medical Journal*, October 1st, 1868, by Dr. James T. Newman, illustrates the extraordinary vitality of the newly-born. August 14th, he was called to a girl—whose shame the friends were trying to conceal by performing the offices connected with childbirth themselves—on account of uterine hemorrhage which alarmed them; and, had they not despaired of her life, none but the family would ever have known what the matter was. The child under consideration was born at eight in the morning, and was quietly wrapped up in an old blanket and put out of sight. I was told that it was still-born. I do not know why I requested to see it, but suffice it to say that the child was shown me, and there was something in its face told me that it was not dead; but I said nothing. The next morning I had occasion to use the stethoscope on an old lady living in the same locality. I called in to see my patient. After finding her doing well, I asked to see the child, and was told that it was in the coffin. I still looked as if I would like to see it, and the mother, noticing my countenance, raised the lid. I took the stethoscope and placed it over the region of the heart, and, to my great astonishment, I could distinctly hear the sound of the heart. I took the child out of the coffin, used Marshall Hall's method, and in the course of thirty minutes the child commenced breathing; the pulse was natural; it cried, and took the breast eagerly. It is a fine-looking boy to-day, and, for aught I know, bids fair to live threescore and ten years. Since seeing this very remarkable case, there is no doubt in my mind that many children are consigned to the grave without an effort to induce respiration.

Art. 271.—*Two Cases of Convulsions during Dentition Arrested by Scarification of the Gums.*[1]

By G. Stevenson Smith, L.R.C.S.E.

(*Edinburgh Medical Journal*, December.)

Since Dr. Cairns communicated his able paper on the Scarification of the Gums to this Society, I have chanced to meet with two cases of convulsions in young children, in whom the violent and alarming excitement of the nervous system was completely allayed by lancing the gums.

A. M., aged six months, a sickly-looking infant, had not been well for a day or two, and when I asked to see him he had much heat of the skin and of the head, and had vomited several times. The pulse was sharp and quick, and for twenty-four hours there had been numerous successive attacks of general convulsions. Failing to find any cause for the fits in the state of the general health, I examined the mouth, and found the lower gum red, tumid, and glistening. I divided its tense margin with a lancet, and the little patient appeared to get immediate relief. At my visit next day, I found him lively and contented, the temperature had fallen, the gastric irritation had subsided, and there had been no more convulsions.

L. S., aged eight months, had been fretting much for some days, was hot and restless at night, had a burning head, quick pulse, and a ceaseless whining cry. I found that he had repeated attacks of convulsions, and when I arrived, he was in a state of opisthotonos, this condition having existed for several hours. Having carefully examined the child, I found nothing to account for the nervous symptoms, save that the upper gum was hot, red, and swollen. He had cut the two lower incisors. I drew the point of a lancet across the tumid gum, and next day I found that the opisthotonos had passed away very soon after the operation. There were no more fits, and the child was comparatively well. The two upper incisors made their appearance in two days, and when I saw the child the other day he was in perfect health.

Similar cases I have frequently met with before, and the members of the Society must have had the same experience.

In Dr. Cairns's paper three questions were put, which I shall now endeavor to answer *seriatim*.

1st. Does scarification do any good? Does it relieve local pain or prevent and arrest convulsions, laryngismus stridulus, diarrhœa, &c.? To this I reply in the affirmative. It does relieve local pain in many a case, and how this can be doubted for a moment I am at a loss to understand. The little patient cannot speak, says Dr. Cairns, and how can you be sure that you have given relief? It seems to me, that, if we cannot interpret the feelings of a little child because it has not yet acquired the use of articulate speech, we are not well fitted to treat the diseases incident to infancy, and have yet to cultivate a most important part of our professional education. The simple wagging of a dog's tail conveys to his master a clear and distinct expression of the feelings which animate his canine breast; and do not the calm repose, the sparkling eye, the joyful crowing of our little patients manifest their relief from suffering as decidedly as the sleeplessness, the fretfulness, and the shrill cry of pain tell of discomfort and distress? But Dr. Cairns does not believe that by abstracting blood from an inflamed part you can in the least degree either reduce or modify the inflammation. The part, he says, continues to be as red, as hot, and as painful as before. Such ideas are only to be explained on the supposition that our friend never practices local depletion, and is consequently a stranger to the beneficial effects of such a remedy. Has he never seen relief following the opening of an abscess, or the application of leeches to a swelled testicle, or to the belly in the case of acute peritonitis? If he has not, then I can easily com-

[1] Paper read at a meeting of the Edinburgh Obstetrical Society.

prehend why he doubts that the abstraction of a little blood from a congested gum can alleviate pain.

That scarification may prevent and arrest convulsions I firmly believe, and in this opinion I know that I am supported by a perfect cloud of witnesses. Dr. Brown-Séquard has shown how easy it is by pinching or otherwise irritating certain nervous filaments in the guinea-pig to induce convulsions; and I think one can without difficulty understand how irritation of the branches of the fifth pair may produce convulsions in infants whose nervous system is so susceptible of impressions. That the convulsions in my two cases were caused in this way, and that they were arrested by relieving the congested gums, I have not the faintest shadow of a doubt. Dr. Cairns may say that the cessation of the attacks following upon scarification was a mere matter of coincidence and nothing more, and that the convulsions might have disappeared even supposing nothing had been done. This I do not deny; but I am inclined to think that, instead of ceasing spontaneously, there was a much greater probability that they would have continued. Besides, this is not, in my opinion, the proper spirit in which one should discuss the influence of any remedial measure. The progress of medical and all other science is no doubt furthered by a certain amount of wholesome scepticism, but surely it must be retarded if we doubt everything and believe nothing. As was well remarked by Dr. James Young, in a previous discussion on this subject—"It is imperative, in cases of convulsions, to give every relief we have in our power, and there should be no waiting to see what nature is going to do." I do not consider myself a heroic practitioner in any sense of the term, but at the same time I have no sympathy with those who stand idly by when something ought to be done. There is a great deal of truth and a spice of grim humor in the remark of one of the fathers of medicine, that the expectant treatment of disease is "meditation upon death." And I think it is highly culpable to refuse to perform so trifling an operation as scarification of the gums when we are convinced that it is in them that the source of the irritation resides.

Dr. Cairns's second question was, Does scarification do any harm? To this I reply that, so far as my experience goes, it does not. Indiscriminate lancing of the gums cannot but be productive of mischief, but in properly selected cases I believe the operation is never followed by any evil consequences. That it may occasionally lead to fatal hemorrhage I cannot deny; but such cases are extremely rare, and can only be regarded as accidents, against which it is almost impossible to provide. The extraction of a tooth may lead to death in the same way, but no one should on that account denounce the operation as an unjustifiable one. Besides, as Dr. Ritchie suggested, the existence of the hemorrhagic diathesis might be ascertained by inquiry as to the history of the vaccination.

Dr. Cairns's third question was, Is scarification, in the circumstances, warrantable? He thinks it is not, because it inflicts unnecessary pain, superinduces some of those conditions which it professes to remedy, and, at the best, is a mere experiment. In regard to the two first mentioned reasons, I have nothing further to say than merely to repeat what I have stated already, that in properly selected cases no such objection can be for a moment entertained. But he says scarification is at the best an experiment. Now, by an experiment I understand something that is done in order to discover an uncertain or unknown effect. But the effect of scarification is neither unknown nor uncertain, and therefore scarification cannot properly be called an experiment.

We know positively that irritation of a nerve-trunk may induce convulsions, and in dentition how very often do we find the trifacial excited by inflammation of the gum. The lancing relieves congestion, tension, and pain, and by allaying irritation, prevents or arrests convulsion. Such, at all events, is my belief—a belief which the experience of my seniors tends to strengthen and confirm.

Art. 272.—*Congenital Cataract in Children Simulating Short-sightedness.*

By Joy Jeffries, M.D., of the Boston Eye Infirmary.

(*Medical Times and Gazette*, November 13.)

Dr. Joy Jeffries, of the Boston Eye Infirmary, calls the attention of non-specialist practitioners to an interesting subject—namely, "Congenital Cataract in Children simulating Near-sightedness." The real nature of the affection, he says, is apt to be overlooked until it has attained a much older date than it ought to have before being submitted to treatment. As in congenital cataract most of the rays of light are obstructed in their passage through the central portion of the lens, a certain degree of dilatation of the pupil facilitates their access through the lateral portions, and the child, while reading, seeking to avoid the stimulus of light in order to obtain this dilatation, turns its back to the window, contracts its brow, and partially closes its eyelids—that is, closely imitates the procedures of a person who is near-sighted. So, also, to retain a larger picture on the retina, or get the light sideways, he holds the book close to the eyes, exactly simulating what a near-sighted person without glasses must do. The opacity of the lens may be of such a character, or so far back in the lens, that the pupil, to the inspection of an unaided eye, may offer nothing abnormal, and the child may be pronounced as simply near-sighted. The ophthalmic surgeon is therefore not consulted until much too late; for, the earlier congenital cataracts are treated in children, the greater the chance of restoring and retaining useful vision. The cataract in the course of time becomes more difficult of removal, and the retina, deprived of its proper stimulus of light, does not undergo a degree or development proportionate to the rest of the eye. Consequently, if the pupil is successfully cleared by the operation at a late period, and light thus freely admitted to the retina, the patient will not retain the same power of vision or appreciation of objects which he would have done had he been operated upon earlier.

"This the ophthalmic surgeon too often sees, and he may even be blamed for not having accomplished what would have been a miracle. Again, I would repeat, the earlier they are done the better. The trustees of the Royal London Ophthalmic Hospital call the especial attention of the public to the necessity of bringing children for operation at an early period, instead of allowing their eyes to be damaged by delay. The average age of the last 500 cases brought there was *seven* years. To show the necessity of my directing physicians' attention particularly to this point, I may say that the average age of the patients with congenital cataract brought during the last four years to the Massachusetts Eye Infirmary was *twelve and a half years*. Finally, I would again remind physicians, when they notice the little ones shunning the light and holding the book near to the eye or sideways, and the parents complaining that they seem dull in learning their lessons, to remember that *cataract*, and not simply near-sightedness, may be the cause, although their eyes may look perfectly natural without ophthalmoscopic examination."

Art. 273.—*On Vaccination.*

By M. Depaul.

The following conclusions were given by M. Depaul in the course of some remarks made during a discussion at the Academy of Medicine of France.

1. Vaccine when carried from arm to arm, undergoes, after a certain number of generations, an indisputable loss of power.

2. This degeneration is attested by the progressive diminution of the local and general phenomena which belong to cowpox, from virus which possesses complete activity, by the more frequent appearance of variola vaccinated subjects, and by the considerable success obtained with revaccinations.

3. Vaccinal syphilis, unknown for a long time, is at the present day an undoubted fact, and it is owing to clinical observation well comprehended and rightly interpreted, that this disease has found a perfectly distinct place in the nosological scale.

4. Cowpox when maintained in the bovine species, that is to say upon its native soil, preserves, for many generations, an energy and activity which are indispensable for assuring its preservative properties when it is inoculated on man.

5. The inoculation of cowpox thus perpetuated, is an assured means of warding off vaccinal syphilis and of rendering to vaccine all the prestige required for making it truly useful.

6. It appears to be demonstrated, by experiments already numerous, that vaccine when weakened in the human organism may be renovated with advantage by a fresh germination in the bovine species.

ART. 274.—*Vaccination direct from the Heifer, or Animal Vaccination.*[1]

By H. BLANC, M.D.

(*British Medical Journal, September.*)

Dr. Blanc included his remarks on animal vaccination in five propositions. 1. The healthy heifer, inoculated with fine spontaneous cowpox, supplies a vaccine lymph free from all morbid and diathetic principles. The most distinguished veterinary surgeons had years ago stated that calves were not liable to any diathetic disease, nor to the spontaneous development of any infectious disease. On the other hand, though vaccination in the ordinary mode, if performed with proper care, was harmless, the transmission of disease by it, under certain circumstances, was an acknowledged fact. 2. Spontaneous cowpox transmitted through the bovine race is more active, more lasting in its effects, and more likely than humanized lymph to create a perfect immunity. In support of this proposition, Dr. Blanc adduced evidence from the writings of Jenner, Dr. E. Ballard, Mr. Marson, Dr. Seaton, &c., to show the increasing susceptibility to smallpox, and the increasing fatality from the disease; and he drew the following inferences: *a.* Direct inoculation from the cow is, according to the testimony of Jenner and others, a most perfect and lasting protection against smallpox. *b.* A few cases of post-vaccinal smallpox were noticed as soon as natural animal vaccination was superseded by the use of humanized lymph; but they were still rare for the following reasons: greater activity of the lymph, not having as yet undergone many transmissions, and the short time since vaccination was performed. *c.* From perfect immunity in those inoculated with spontaneous cowpox, we arrive from a few rare occurrences, to a small percentage, gradually but steadily increasing, until in 1864 it reached the very high average of 84 per cent. *d.* Among those protected by spontaneous cowpox there is no fatality. 3. Spontaneous cowpox, by being transmitted through the bovine race, retains all its essential qualities. Cowpox is a disease of the bovine race, as smallpox is of the human race. Each of them transmitted through the race to which it belongs, retains its own properties. 4. Vaccination direct from the heifer offers all the characteristics of the cowpox-vesicle as described by Jenner, Ceely, Bousquet, &c., with such modifications only as are due to the passage of the lymph through young and healthy animals. The characters of vaccination with heifer's lymph were—rare activity, later development, a lengthened duration, and a well-marked cicatrix. 5. By animal vaccination, we have always on hand an unlimited supply of good vaccine lymph. With one heifer 500 persons can be vaccinated; with one heifer ten heifers can be inoculated; and, as it requires only five days for the vesicle to be ready for use, by animal vaccination, at six days' notice 5000 persons can be vaccinated; at twelve days' notice 50,000, and so on.

---

[1] Abstract of a paper read at the thirty-seventh annual meeting of the British Medical Association, held in Leeds, July, 1869.

Art. 275.—*On Animal Vaccination.*[1]

By P. M. Braidwood, M.D., Birkenhead.

The intention of the author's remarks was to present a comparison of the present method of arm-to-arm vaccination with the proposed method of animal vaccination. 1. The advantages of the mode of vaccinating children with lymph which had passed through a series of human generations, were its facility, the convenience of removing lymph at such an easily remembered date as the eighth day, or the "day week" after vaccination, and the cheapness with which this plan could be prosecuted. The facility connected with the employment of humanized lymph consisted in the large amount of lymph derivable from human vesicles, and in its fluidity, which allowed more of it to be used, and enabled it to be readily received into capillary tubes for the purposes of preservation and transportation. The eighth day after vaccination was a very easily remembered date; and the present plan had now been so long in general usage, that parents would usually of their own accord bring the child back for inspection at that date. This method was the cheaper of the two, as it cost only the time occupied in performing the operation. 2. The disadvantages of the present method consisted in any imperfect protection against smallpox, and in the possibility of the transmission of human diseases by humanized lymph. In favor of the opinion that the exclusive use of vaccine lymph, which had passed through numberless human generations, afforded an imperfect protection against smallpox, the following arguments were brought forward. The vesicles were not so large and well formed; the lymph derived from them was not so beautifully clear and transparent; and the concomitant irritative process was not so well marked as in the true Jennerian vesicles. Moreover, the period of protection against variola did not extend over so many years now as it used to do. Statistics showed an increased death-rate from variola in later years as compared with the earlier part of this century. The chief objection, however, to the present mode of vaccinating, was the possible transmission of human diseases by humanized lymph. It had never yet been proved that any disease, excepting syphilis, could be introduced into the human body by inoculation or injection; and syphilis, as far as our present knowledge extended, was inoculable either through the blood or through its special virus. There was as yet no proof that vaccine lymph, pure and unmixed with blood, could be the means of conveying syphilis or any other disease from one human being to another; though the supposition that the serum of the blood was the agent in hereditary cases might serve to favor this view. It was probable, however, that vaccine lymph became changed by being engrafted on another animal species, and lost its primitive qualities by being continuously transmitted from one member of the new species to another without recourse to its original source. It was impossible to say through what an endless variety of human constitutions the vaccine lymph had passed in use in this country since Jenner's time, and to what manifold evil influences it had been exposed. If this were so, and if it were to be believed that the vaccine virus, on its introduction into the human economy, was absorbed and exercised an influence which resulted not only in a local effect, but which affected the whole system, was it not probable that the lymph employed in our day for arm-to-arm vaccination was not really the same as that used by Jenner, was not so efficacious, was possibly diseased; therefore that it should be renewed? 3. The advantages ascribed to animal vaccination were, a greater protection against smallpox, the obtaining of an endless supply of reliable lymph, and the impossibility of transmitting disease. The vesicles obtained by vaccinating from the heifer were finer; the lymph was more crystalline in appearance, though smaller in quantity; the areola was less indurated, and indicated a more healthy inflammatory process; the progress of the disease was slower, and its result, the cicatrices, were better marked than

[1] Abstract of a paper read at the thirty-seventh annual meeting of the British Medical Association, held in Leeds, July, 1869.

in the case of vaccinations from arm-to-arm: hence it was probable that a greater protection against smallpox was afforded by animal vaccination. This new method has not yet been sufficiently long in use to allow of proving by statistics whether or not it afforded a longer protection against variola. By means of animal vaccination, however, an endless supply of reliable lymph could be procured; not through the size of the vesicles, but from their number; *e.g.*, on one heifer, from 150 to 200 punctures could be made; and from each vesicle three children could be vaccinated in six places (three on each arm): hence from one heifer, from 450 to 600 children could be vaccinated, and from 2700 to 3600 vesicles could be produced. Moreover, during an epidemic, by vaccinating a heifer with three or four tubes of heifer lymph, in four days thereafter a hundred children might be vaccinated; whereas several children would require to be vaccinated in order to obtain an equivalent supply of humanized lymph, and there would be a delay of eight days. Lastly, by employing animal vaccination alone, it was impossible to transmit disease, because a healthy heifer should always be chosen for the purpose, because the cows from which the heifer was vaccinated were healthy milking cows, and because heifers at the age at which they were used for this purpose (six to eight weeks old) are liable only to diseases which were not communicable, and which were readily recognized. 4. The disadvantages of animal vaccination were said to consist in its not taking, and in the outlay of money required for its prosecution. This new method had, however, been now so perfected that failure with the employment of heifer lymph was a rare occurrence. In St. Petersburg, when children were vaccinated directly from the heifer on the fifth day of the disease, only two per cent. of failures were met with; when they were vaccinated on the fourth or sixth days of the disease, four per cent. of failures occurred; and if they were vaccinated on the seventh day of the disease in the heifer, the failures increased to ten per cent. The pecuniary expense of prosecuting animal vaccination was, however, considerable. The objection to the exclusive employment of humanized lymph which weighed most with Dr. Braidwood was, that it was probable that the original cow-lymph, by long and uninterrupted transmission through human beings, had undergone a retrograde metamorphosis, had lost certain essential qualities necessary to render it a thorough protection against variola. The prosecution of animal vaccination was too costly to permit its general adoption by practitioners; but he felt sure that it would be most advantageous to have institutions established in some of the largest towns for carrying on the method of vaccinating from the heifer. To these establishments those could repair who wished to have their children vaccinated directly from the heifer, and through them pure, reliable vaccine lymph (lymph which had never been in contact with human blood) might be procured by medical men desirous of employing it.

Art. 276.—*On the Comparative Protective Powers of Animal and Human Vaccine Lymph.*[1]

By A. B. Steele, L.K.Q.C.P.I.

(*British Medical Journal*, September 4.)

Mr. Steele argued that animal vaccination—that is, the vaccination of the human subject direct from the heifer, as a substitute for or auxiliary to infantile arm-to-arm vaccination—is not necessary; and he adduced the following reasons. 1. Humanized vaccine lymph, when carefully selected and properly employed by arm-to-arm infantile vaccination, is as certain and complete a protection against smallpox as it is possible to confer—equal, in fact, to the protection afforded by smallpox itself. 2. Human vaccine lymph, when properly managed, does not degenerate nor lose any of its prophylactic power by a continued transit through successive subjects. 3. It is no proof that the

[1] Abstract of a paper read at the thirty-seventh annual meeting of the British Medical Association, held in Leeds, July 1869.

vaccine lymph now in use has lost any of its original infective or protective power, to adduce the well-known fact that smallpox still appears among the population from time to time, and that much of the vaccination in this country —as much as fifty per cent., according to her Majesty's Inspectors—has been found to be infective and of inferior quality. 4. The supply of human lymph afforded by the stations of the National Vaccine Establishment is abundant, continuous, and sufficient to meet the requirements of the public. 5. Human vaccine lymph is safer, more certain in its effects, and is in every respect more suitable for the purpose than animal lymph. The question of the transmission of syphilis by vaccination, although maintained by many authorities, has been thoroughly and satisfactorily disposed of by Dr. Seaton.

ART. 277.—*On the Transmission of Measles; the Duration of its Incubation; and the Pharyngeal Affection characteristic of this First Period.*

By M. GIRARD, of Marseilles.

(*Gazette Hebdomadaire*, No. 38, 1869. Communicated to the Société Méd. des Hôpitaux.)

Many physicians think that the period of decline of contagious febrile exanthems is that during which transmission takes place most effectually. The question, however, is far from being decided. M. Girard has already communicated some researches upon this subject, and has concluded that transmission operates during the commencement, which conclusion then seemed disputable. An epidemic of measles which existed lately at Marseilles supplied him with an opportunity for renewed researches, which confirmed entirely the results already enunciated in a former work. The new data of M. Girard are based upon a series of 108 cases, which were minutely observed and recorded.

Not one of these cases seemed to be of an essentially epidemic character. Epidemy acted then but very rarely as a direct cause, and its influence would be analogous to that of the electrical tension of clouds in time of a storm; contact alone may cause the malady to spring up, as contact alone or vicinity may make the spark pass between clouds charged with electricity. No one of the 108 cases presented an exception, so that the learned physician of Marseilles considers it as an established fact that measles is not transmitted but by contagion. This contagion even operates before the eruption during *the prodromic period*. The following are the proofs:—

A rich family of Marseilles had a groom from Geneva. This man, on his arrival in the town, goes first to a house where his sister is a domestic, and does not enter the house of his new master until the following morning. Scarcely is he installed among them when he is attacked by measles. In the fear that the infant of the house would be contaminated, the servant is sent to the hospital. However, *twelve* days afterwards the infant is attacked with measles, and on the same day, at the same hour, another infant, who inhabited the house which the groom had visited, was also attacked.

In a very large house in Marseilles dwell two families, the mother and her daughter. Both have infants. When a child of the mother is attacked by measles, the other children are hurriedly removed, but two weeks afterwards were all attacked at the same time.

In three only out of 108 cases was the disease developed on the sixth day from the date of the morbific contact; in all the other cases it was the thirteenth or the fourteenth day—never before the thirteenth, never after the sixteenth—on which the symptoms made their appearance. *The duration of the incubation may be definitely fixed between thirteen and sixteen days.*

Dr. Girard asserts that measles *does not develop spontaneously*. Contact with an individual actually affected is necessary. This becomes unquestionable when one is asked, like Dr. Girard, to follow exactly the filiation, and to establish the associations which the affected individual has had. The following is a case in support of this view:—

A girl, eleven years of age, had measles. The mother is perfectly certain that her daughter had had no acquaintance and no contact with any person affected with measles. After a minute inquiry it is finally learned that the young patient, thirteen days before falling sick, had played on the piano with a person who at that very time presented the early symptoms of measles.

Dr. Girard also calls the attention of his colleagues to an important peculiarity from a diagnostic point of view. He alludes to red spots, which are always observed on the velum palati four, five, or six days or more before the eruption. This sign, which constitutes a very important prodromic character, was never at fault.

From these observations on measles follows the practical conclusion, that one may, without danger, set the affected children free after the eleventh or twelfth day, and then discontinue the quarantine which is generally imposed upon them.

Art. 278.—*On the Enlargements of the Viscera which occur in Rickets.*[1]

By W. H. Dickinson, M.D.

(*Medical Times and Gazette*, September 25.)

Certain organs of rickety children, particularly the liver, spleen, and absorbent glands, are apt to become altered in a manner somewhat analogous to the change which occurs in the bones. The liver increases in size so as to project palpably below the ribs. It becomes dense, elastic, and pale. The most striking change in its structure is a morbid development of the portal fibrous tissue, which is often evident to the naked eye, circumscribing each lobule. The spleen undergoes in some cases an enormous increase, forming a hard tumor under the walls of the belly, which may reach from the diaphragm to the pelvis. It becomes hard and dense, and has a purple color, sometimes mottled with buff, on which the white Malpighian corpuscles conspicuously show. These changes are due partly to a swelling of the delicate reticulum in which the splenic pulp is immediately contained, and partly to an increase in the cellular and corpuscular contents of the meshes. The latter change, however, is not always present, since the corpuscles in some cases become atrophied, the spleen then being hard, but not necessarily increased in bulk. The absorbent glands are often considerably enlarged, owing to an increase in their cellular and corpuscular contents. The kidneys become large and pale, owing to an increase of the epithelium in their convoluted tubes. None of the organs affected as described give any reaction with iodine. The change in the viscera is due not to the presence of any formation foreign to their structure, but to an irregular hypertrophy which alters the natural proportion of their tissues. The epithelial and corpuscular element is generally increased, while in the liver the capsule of Glisson, and in the spleen the trabecular tissues are abnormally developed. It appears (so far as an analysis of the spleen can be taken as a guide to the general condition) that in the viscera, as in bones, there is a deficiency of earthy salts. The condition of viscera which has been described belongs especially to the first four years of life. It usually occurs in connection with the external signs of rickets, though sometimes the visceral precede the osseous changes; and it not seldom happens that the visceral change may be extreme when the modification in the skeleton is but slight. The rickety state of the viscera, like the alteration in the texture of the bones, is transient in its nature. Under favorable circumstances the affected organs have a strong tendency to recovery, and, even when swollen to the utmost, will occasionally return to their natural dimensions. The change in the viscera appears to interfere comparatively little with their functions. The swelling of the spleen, indeed, when considerable, is often accompanied by much anæmia, but the change in the liver is unaccompanied

---

[1] Abstract of a paper read at a meeting of the Royal Medical and Chirurgical Society, June 22.

either by ascites or jaundice, and though the kidneys may be decidedly enlarged, the urine remains free from albumen. When the visceral change has taken place to a considerable extent, the child is usually emaciated and anæmic, and is especially liable to be attacked by the diarrhœa, bronchitis, or pneumonia, to which rickety children are prone. These affections constitute the chief danger to which it is exposed. The treatment found to be beneficial is that ordinarily called for in cases of rickets. The diet should be nutritious and carefully adjusted, consisting of milk, beef-tea, meat, and wine, according to the age and state of the patient, while medicinally cod-liver oil is a prime necessity, and iron and quinine seldom fail to be advantageous. The rickety change which has been described differs both pathologically and clinically from the lardaceous or amyloid change on the one hand, and on the other from the enlargement of the spleen and absorbent glands which has been associated with the name of Hodgkin.

ART. 279.—*Lithotomy and Lithectasy in Children.*

By F. CHURCHILL.

(*Medical Times and Gazette*, June 12.)

Four very interesting cases of stone in the bladder in children have recently been operated upon in St. Thomas's Hospital with success; two of them by Mr. Solly, the patients being a boy and a girl; the other two by Mr. Sydney Jones, both being boys. The comparative immunity of the children from renal or other complications is now recognized as one of the principal reasons why this operation is so much more successful in children than in adults. It will be seen by the details given below that each case terminated most favorably; not a single untoward symptom occurred in any one of them, the progress toward convalescence being quite satisfactory. As they have now left the hospital quite well, it may be interesting to contrast the history and treatment in each case. In Mr. Solly's second case, that of a little girl, aged six, the stone was extracted through a previously-dilated urethra. Although the comparative success of this operation in children would warrant the surgeon in interfering as early as possible, the inexperienced lithotomist must understand that this success is mainly due to a careful *tactus eruditus* during the second stage of the operation, viz., the cutting into the bladder; for the prostate gland, being in an undeveloped condition, cannot serve as a guide to the groove in the staff. Then, again, additional impediments to the surgeon in reaching the neck of the bladder are the pyriform shape, and the position of the bladder, which is higher up in the pelvis, and consequently less fixed, than in the adult. In neither of these cases, however, was there any difficulty during the first or second stages. In the case of lithectasy, although the stone had been detected by the sound when the patient was laid on the table, Mr. Solly could not detect it with the forceps, the reason being that, with the first gush of urine, the bladder had formed an hour-glass contraction at its centre, and this contraction being felt, Mr. Solly passed the forceps well upward and backward, and found the stone lying at the fundus of the bladder. It was then removed without any difficulty. In Mr. Solly's first case the boy had been operated upon twice before, and on each occasion he had been troubled with a fistulous opening in the perineum for some months after; ultimately it closed completely. It is now three months since the last operation, and the fistulous opening has almost entirely closed, only a few drops of urine passing this way during micturition, but not at any other time. In neither of Mr. Jones's cases had the patient been previously operated upon for stone. In the first case, that of a cripple, aged eighteen, the stone originally was an ordinary mulberry calculus, but it had become coated over with some large crystals of triple phosphate. Properly speaking, this lad, being beyond the age of puberty, should be classed with stone in adults, but, from the remarks which we have made, it will be seen that the general features of the case may be better compared with those occurring before puberty. The stone in the second case was about the size of a small hen's egg, and was found

to consist of large conglomerate masses of uric acid crystals intermingled with layers of phosphatic deposit, especially toward the base, where the stone was flattened by resting upon the *bas-fond* of the bladder.

Art. 280.—*Diarrhœas of Children.*

By Dr. Muller.

(*Journal f. Kinderh.*, 1868.)

Dr. Müller discusses minutely the varieties of diarrhœa in children. First in the class of acute diarrhœa is the saburral diarrhœa of sucklings, the result generally of error of diet. He adds nothing but conjecture in explanation of the singular change of color of the dejections from yellow to green after being exposed to the air. As to the choice of food, the selection of a nurse, he remarks that the microscope fails to distinguish milk that may be rendered poisonous by mental emotions. As a practical rule, he thinks it important to select milk the fat globules of which are as uniform as possible in size, avoiding milk containing very large globules intermixed with others of various sizes. After much experience, he concludes that pure cow's milk, sweetened with milk-sugar, used directly after milking, is the best substitute for human milk. He insists that the cows should be fed on hay only. The milk should not be watered or boiled. To preserve it from decomposition, it is necessary to prevent its exposure to air, not only to avoid oxygen, but also the sporules of fungi. It should be tested by litmus-paper, and if found ever so slightly acid, rejected. He calls attention to a *brochure* by Folger—the artificial nourishment of infants with milk free from fungi (Münster, 1867), who describes an apparatus which secures the milk from access of air, not only during its flow from the cow's udder, but also during the sucking of it from the bottle by the child. As to medicinal treatment, Müller speaks well of calomel in small doses for the first day or two. He then describes successively—2. The saburral diarrhœa of older children. 4. The catarrhal acute diarrhœa, including the summer epidemic, the diarrhœa of dentition, and the sporadic infantile cholera. On the subject of the last Müller discusses the various opinions held concerning its pathology. The gelatinous softening of the mucous membrane of the intestinal canal occasionally found he does not regard as essential; he admits that it may be the result of *post-mortem* digestion, and says that, from a clinical point of view, a pathological softening of the stomach can only be inferred when, after an extremely short illness, and after the most decided and violent stomach symptoms, death has followed. But such cases are extremely rare, and in most cases where softening has been found after death no symptoms had led us to suspect such a condition during life. In treatment Müller has found nitrate of silver, one-eighth grain to one twenty-fourth grain, with sugar and gum, given four times daily, the most effectual remedy. As soon as symptoms of collapse begin, marked by paleness and a falling temperature, Müller has seen, in many cases, veratrum followed by recovery.

The Chronic Diarrhœas.—The common seat affected is the large intestines. They must be regarded as *chronic catarrh*, especially of the mucous membrane of the large intestine. Müller carefully discusses the treatment. In the form known as lienteria, in which there is such a condition of the intestinal canal that the food, quickly after ingestion, is expelled only superficially digested, Müller says nux vomica may be regarded as a specific, whilst opium is quite useless. In the common form he recognizes the value of nitrate of silver. He submits three conditions as indicating the use of this remedy: 1. Croupous deposits in the mouth and fauces, such as frequently complicate chronic intestinal catarrh. 2. A peculiar redness and smoothness of the tongue. 3. Irrepressible thirst.

Art. 281.—*On the Use of Pepsin in the Diarrhœa of Infants.*

By James S. Hawley, M.D., of Green Point, Long Island, New York.

In a communication to the *Buffalo Medical and Surgical Journal*, Dr. Hawley calls attention to the use of pepsin in the diarrhœa of infants. He says:—

Premising that the great predisposing cause of infantile diarrhœa is the state of evolution which the digestive system and its dependencies are undergoing during the period of dentition, the question of therapeutics becomes one of comparative simplicity, and the evident duty of the physician is to allay that irritation of the organs which is exhibited in vomiting and purging, first, by the removal of all extraneous sources of disturbance, such as food, improper in quantity or quality, by protecting the skin from too sudden and frequent changes of temperature; secondly, by sedatives, to subdue the excitement which the foregoing causes may have induced, and which, in the enfeebled condition produced by the transition state, are self-propagating; and, lastly, to impart to the struggling and overwhelmed digestive apparatus that assistance which will enable it to convert food from the character of a foreign, and therefore irritant, material, into nutriment which will reinvigorate the natural forces and enable them to accomplish successfully the great and necessary evolution through which they are passing.

As sedatives to the over-excited mucous membrane and glandular system of the stomach and bowels, the preparations of opium and the salts of bismuth stand pre-eminent. When irritation, without pain, exists, bismuth most promptly and satisfactorily allays it; but when accompanied with pain, the addition of a minute portion of opium becomes a necessary complement to its effectiveness.

We have now briefly noticed, in outline, the first two conditions of treatment, viz., the removal of external causes of irritation, and the allaying of the morbid excitement which has sprung from their agency; and it may be asked if the natural functions will not now resume their offices, and the health of the patient be restored? Doubtless such would be the case, did not the system labor under the combined effects of the transition state of dentition and the impairment of strength due to the morbid causes above enumerated, and for which the correctives have been proposed. But the circle of remedies is not yet complete. By the administration of pepsin we at once convert the ingesta into nutriment. They not only cease to be irritants to the digestive organs, but are absorbed into the circulation, and become sources of power instead of weakness.

Now, we have fulfilled all the indications: first, to remove all sources of irritation from the quantity or quality of the ingesta, or change of temperature; secondly, allaying irritation by sedatives; thirdly, artificial digestion by the administration of pepsin. This simple but effective treatment is not new, but has more than once been presented to the profession for its approval.

Art. 282.—*Food for Infants.*

(*Edin. Medical Journal*, December.)

In the *Transactions of the Medical Society of the State of Pennsylvania* for 1868, is published an essay on the above subject, by Dr. Hiram Corson, of Montgomery County, in this State, which contains a great deal that is worthy of thought. We can find room only for the following extract:—

During the last few years I have noticed that all our young men, graduates of the medical schools of Philadelphia who come to practise in the county, and even those whom I have met who practise in the cities, invariably give the same advice to the mothers who consult them in relation to the proper mode of feeding children to be raised by hand. They all direct them to give one-third milk and two-thirds water. And they give the reason for adding the water, viz., "The whole milk is too strong." Now, where do they get this knowledge? Has it come down from the authors already named to the present teachers, and

do they so instruct their pupils? That is the rational conclusion. It appears, then, that from the time of Burns, and probably from a much more remote period, this opinion, that cow's milk is too strong to be used without free dilution has been handed down by writers and teachers with scarcely a doubt of its correctness. If we have made any progress in all this time, it has not been to lessen the dilution, but to increase it from one-half to two-thirds water; and with this the great body of the profession is satisfied: and yet in the very face of this treatment stands the appalling fact, that from "forty to eighty per cent.," "seven out of every eight" of the little creatures perish within a few months after their birth.

During a long and busy practice I have been enabled, I hope, to arrive at a better mode of feeding infants deprived of the mother's nourishment; and for the benefit of those who are just entering upon the duties of our profession, and who will be called upon for advice in this matter, I desire briefly to record my observations and experience.

Thirty-two years ago, it became necessary to have my own child reared by hand, and I then discovered how ignorant I had been in relation to the *quantity of food* necessary for an infant, and was also enabled to observe the effects of an insufficient amount of food. Subsequent observations through many years have convinced me that there is not more than one woman in five, and perhaps not more than one in ten, who knows what amount of milk a child should have. Nor is there one physician in very many who can tell the mother or nurse what quantity it would need in twenty-four hours. I have repeatedly asked mothers and nurses and physicians, and it has been rarely that they have even approximated the truth. And this, because their attention had never been specially drawn to it. One would say a teacupful; another, not quite so much; a third, rather more; and a fourth, half a pint; and some, even as high as a pint, though they rarely named so much. And then, on being asked if they put water with the milk, they invariably replied, one-half water, or two-thirds water and one-third milk. Now, scarcely any child of one month will be satisfied with a pint daily; many will take a quart; the average is between them. But I do not mean that to this quantity twice as much water should be added, thus making nearly three quarts of fluid; for no child could take so much in twenty-four hours. Suppose, then, that a child can only take three half-pints of fluid into its stomach in a day, and two half-pints of it are water, it will then only get eight ounces of milk, when it needs twenty-four or thirty-two ounces daily.

I feel quite certain that it is almost as easy to raise children by hand, if they have an abundant supply of good undiluted cow's milk, as it is by the breast. But the bottle should always be used instead of the spoon. My plan is to direct as much milk as the child can take, and as often as it wants it; but always of the temperature nearly of the mother's milk. In winter-time, or when milk is kept in a deep cave, or in a spring-house, I direct that as much boiling water be added to it as will bring it to that temperature. It takes but very little water, and is more convenient than heating it over the fire. To a pint of cool milk two tablespoonfuls of boiling water should be added, the whole then well sweetened. A healthy child of one month will take that much twice in the twenty-four hours. Some children at one month, or between one and two months, will take more than a quart daily, and a few can scarcely take so much. If, then, you are called to such cases as I have described, or to those milder cases where the child is fed half enough, or even a little more than that, place no reliance on the word of the nurse or mother, "that she feeds it plenty, or that it will not suck or eat, or cannot keep it down." I have frequently seen a mother let the hungry little creature tug and pull at her flaccid, milkless breast, without being aware that the child got nothing from it; and yet she thought "it was getting suck." In those cases hold back the medicine for a few days and try the milk. Those children who have been nursed and fed by the spoon will sometimes wholly refuse to take the bottle in lieu of the breast, and the mother takes it for evidence that they do not like the cow's milk, and will therefore attempt to raise them on some of the many farinaceous articles recommended, and in this she will be likely to fail. A little perseverance will

generally induce them to take the bottle; and when once used to it, so that they can steady it in their own hands, they will rarely take too much.

I sincerely hope that our graduates hereafter will not go forth to practise, believing that the proper substitute for the mother's milk is *a mixture of two-thirds water and one-third cow's milk.* Rather let them be instructed that the higher the organization of the animal, the more abundant will be the nutritive constituents of the milk; and as man is at the head of the animal creation, human milk is more highly organized than that of any other animal. If, then, you wish to use any other milk as a substitute for the mother's, instead of diluting it with water, it would seem to be more appropriate to add to it some nutritive substance.

Baron Liebig's soup is probably very good, for to five ounces of good milk he adds half an ounce of wheaten flour, half an ounce of malt flour, and seven grains and a quarter of cream of tartar, dissolved in an ounce of water. This is to be put on a gentle fire, and when it begins to thicken it is removed from the fire, stirred for five minutes, heated and stirred again until it becomes quite fluid, and finally made to boil. Separate the bran by a sieve, and it is fit to use. But how inconvenient for the poor to procure those ingredients and prepare them for the child every time that it needs food! Where milk cannot be procured, farinaceous substances may be used; but milk is better and more convenient.

I feel that some physicians who practise among the higher classes of society will regard these observations as having no reference to *their* patients, but refer wholly to the neglected children of the poor. It would be fortunate if it were so; but who has not seen the poor little emaciated child of rich parents dragged about in its little coach by the nurse, or lying on her lap on a cushion, as the large carriage rolled along to give it an airing, by direction of the physician, whose very precise directions had been to feed it every four hours, two-thirds water and one-third milk? Day after day, week after week, has he not visited and prescribed (not for the starvation, but) to improve its nutrition, to relieve its colics, to correct its sourness of stomach, to regulate its bowels, or, to sum it all up in one common phrase, "to build it up?" Did he succeed? No. Under the impression that the child's stomach was weak, not able to take much food, the quantity of food was diminished, a little lime-water, mint-water, or some other "corrective" added, and the little starving sufferer, never ceasing its low and plaintive moan, gradually passes away forever. This is starvation in the midst of plenty—starvation by prescription. There is little difficulty in raising children by hand, if they are allowed a full supply of good milk. A great many struggle along on even half the proper quantity. But they are weak, thin, and of small growth. Children who are fed on the water-and-milk mixture are sometimes saved by a habit which prevails among the poor, of giving it while the mother is eating, small bits of bread or biscuit soaked in coffee, or with molasses or sugar on it. Thus very soon the little thing becomes clamorous for it, and the mother, in order to keep it quiet, will soon give it quite a slice of bread, or a small biscuit to suck at. Children of a few months will sometimes thus be saved.

How common it is to hear a mother say, "My child is getting very hearty now; but until it was nearly a year old it was very puny. I thought I would lose it." It was puny for want of food; it was starved on water and milk; but when it got old enough "to sit up at the table, and got a little of anything," it began to improve; and yet the mother did not perceive the cause of the change.

Art. 283.—*Effects of Tobacco Smoke upon Children.*

(*Dublin Quarterly Journal*, November.)

The *Revue de Thérapeutique Médico-Chirurgicale*, for 15th February, 1869, contains a paper on the effects of tobacco smoke upon children, contributed by Dr. E. Decaine. Having described his experience in relation to this matter, he concludes: 1. That the pernicious effects of tobacco smoke upon children

are incontestable. 2. It produces pallor, chloro-anemia, palpitations of the heart, diminution of the normal number of blood globules, and difficult digestion. 3. The ordinary treatment for chloro-anemia and anemia produces no effect so long as the habit of smoking is persisted in. 4. The children who are addicted to smoking exhibit a want of intelligence, and have a liking more or less decided for strong drinks. Children who abandon the practice of smoking before any serious organic lesions are produced, speedily recover from disorders of the system, of which even traces do not generally remain.

In the last number of the *North American Review*, Hammond argues at great length against the notion that the practice of smoking tobacco produces much disease amongst adults.

APPENDIX.

Art. 1.—*On Atrophy induced by Cicatrix, and its Surgical Value.*

By T. Pridgin Teale, M.A., F.R.C.S., Leeds.

(*British Medical Journal*, December 11.)

In this paper Mr. Teale links together a series of facts which show that such tissues as derive their nutrition by vessels passing through cicatrices have a tendency to waste—a tendency which does not become evident until some time has elapsed from the completion of cicatrization, and continues for months, or even years, until, in some instances, the dependent tissue fades away completely. Mr. Teale's attention was clearly fixed upon this interesting process by the following case, described in his paper "On the Relief of Symblepharon by Transplantation of Conjunctiva" (*Ophthalmic Hospital Reports*, vol. iii., Oct. 1861).

"*Case.*—Joseph Jessop, a puddler, was struck in the right eye by a hot cinder, which produced a slough of conjunctiva and cornea, ending in symblepharon. The middle portion of the lower eyelid (about one-third of an inch in breadth) was adherent to the eyeball, and encroached upon the cornea to which it was cicatrized, so as to conceal the lower margin of the pupil, and slightly to interfere with vision.

"In April, 1860, twelve months after the accident, the following operation was performed, in order to release the eyeball from the adherent lid. The eyelid having been freely dissected from the globe so as to set the eye at liberty, two flaps of conjunctiva from the uninjured upper part of the eyeball were dovetailed into the site of the symblepharon, but *the portion of skin forming the apex of the symblepharon was left adherent and undisturbed on the cornea.*

"Shortly after the operation, the isolated skin left on the cornea began to waste, becoming more flat and translucent, and *in eighteen months it had vanished, leaving the cornea transparent*, and *flattened* from the loss of substance sustained at the time of the injury. The site of the adherent skin could only be detected by oblique illumination; sight had improved; and the movements of the eyeball were restored by the interpolated conjunctiva.

"Here we have the clear and unmistakable fact, that a portion of skin became atrophied and disappeared, after its isolation by cicatrix had been rendered complete by operation. Let us first inquire into the nature of the process by which these changes are brought about, and then ascertain whether the same principles may not be applied in many departments of surgery.

"We are familiar with the fact that cicatrix, visible on the surface of the body, both during its formation and for months or years after its completion, contracts. This process of contraction, going on over the whole cicatricial surface, not only draws parts together, but narrows and strangles the channels which pass through the cicatrix, lessening the calibre of arteries, strangling veins at their exit, and thereby rendering them visible on the surface of the scar. Under this same process, a rectum may be strictured after too free destruction of its circumference for cure of piles; or the urethra may be strictured after amputation of the penis where the surgeon fails to provide against such a result. All these characters of visible cicatrix are familiar to us on the surface of the body. Are they less true for unseen—subsurface cicatrix, that layer of new material by which, for instance, a transplanted flap of skin grows to the raw surface made by the surgeon? Such a flap, on its transplantation, is at once glued to its new bed by a material in which vessels are rapidly formed, which aid in maintaining in life and vigor the skin thus suddenly deprived of a

great portion of its blood-supply. These newly-formed, numerous, and vitally important vessels, traversing as they do cicatrix, are doomed, after a time, to be one by one reduced or cut off. Does the flap, then, become atrophied? Certainly not. The gradual lessening of the blood-supply traversing the treacherous cicatrix is balanced by the compensating enlargement of the unembarrassed vessels of the sound pedicle, whereby the flap is enabled to maintain its normal nutrition—in fact, to "keep up to the mark." Sever the pedicle, however, and isolate thereby the transplanted portion of the skin completely by cicatrix, and the intruded flap, like the island of skin on the cornea in the case of symblepharon, must lose condition, and undergo atrophy with a completeness proportioned to the curtailment of its blood-supply."

The author shows that the principles here worked out in one case of symblepharon are neither exceptional nor limited to a single class of cases, but that additional illustrations may be drawn from—*a*, Symblepharon; *b*, Cutaneous Nævus; *c*, Subcutaneous Nævus; *d*, Rhinoplastic Surgery; *e*, Growth encroaching upon the Cornea; *f*, Syndectomy. Finally, he deduces suggestions for the treatment of tumors not amenable to extirpation by the ordinary methods. In conclusion, Mr. Teale asks whether we may not so plant cicatrices around or in the interior of tumors which we cannot, or prefer not to extirpate, as to determine the balance of nutrition against growth, and in favor of atrophy. May we not hope, like the French surgeon, to be able to cause the disappearance of tumors without the production of visible cicatrix?

INDEX TO VOL. L.

PAGE

ABDOMEN, hydatid tumor of the, remarks on. By Thomas Bryant, F.R.C.S..... 179
Acid, acetic, injections in cancer. By D. M'Gregor, L.R.C.P..... 109
" carbolic, and human parasites. By T. A. Readwin..... 107
" " effects of, on the economy, on vegetable parasites and diseases of the skin. By Dr. Neumann..... 81
" " in scarlatina. By H. T. Cleaver, M.D..... 91
" " on. By Dr. M'Gregor, L.R.C.P..... 109
" phenic, on the reaction of, on strychnia. By Dr. Paulo Bert..... 89
Acupressure, on. By D. M'Gregor, L.R.C.P..... 109
" and torsion, on. By J. Cooper Forster..... 123
After-pains, management of. By T. Gaillard Thomas, M.D..... 238
Albutt, Dr. C., treatment of diabetes by peroxide of hydrogen..... 58
Allison, Mr. William, case of prolapsus of the uterus..... 238
Almés, Dr. H., on the effect of corrosive sublimate in improving the constitution.... 102
Amblyopia, amaurotic, occurrence of, long after the injury. By T. Wharton Jones, F.R.S..... 164
Amputation and excision, the relative value of. By J. H. Barnes..... 134
Anæmia and chlorosis. By T. G. Thomas, M.D..... 210
Anæsthesia, local. By D. M'Gregor, L.R.C.P..... 109
Anæsthetics, three new, notes on. By Dr. Rabuteau..... 100
Andante, Dr., on poisoning by phosphorus..... 85
Anderson, Dr. McCall, on some of the more recent methods of treating certain diseases of the skin..... 4
" " on the German spas..... 113
" " on the therapeutics of diseases of the skin..... 69
Aneurism, abdominal, on the differential diagnosis of. By W. Moore, M.D..... 186
" of the subclavian artery. By Alfred Poland, F.R.C.S..... 184
" popliteal, on a case of. By J. F. West, F.R.C.S..... 224
" traumatic varicose, sucessfully treated by ligature. By James Spence, F.R.S..... 218
Aneurism, treatment of. By Geo. W. Balfour, M.D..... 124
Aneurisms, cured by digital pressure. By Thos. Bryant..... 224
" on the treatment of. By Prof. Langenbeck..... 124
Antiseptic cere-cloth for covering wounds, on the use of. By Edward Lund, F.R.C.S. 95
Arm, amputation of, at the shoulder-joint. By J. Fayrer, M.D..... 210
" " " with excision of the scapula. By Vincent Jackson, F.R.C.S..... 209
Arsenic, on the use of, in pulmonary phthisis. By Dr. Moutard-Martin..... 91
Arthritis, dysenteric, on. By Dr. Huette..... 11
Atrophy, on, induced by cicatrix, and its surgical value. By T. P. Teale, F.R.C.S. 282
Atropine, digitaline, and aconitine, on the physiological action of, on the heart and great bloodvessels. By F. B. Nunneley, M.D..... 89

BALFOUR, Dr. G. W., on the treatment of aneurism..... 124
Bandage, the water-glass. By Dr. Flamm..... 136

PAGE
Barnes, Dr. Robert, on a new method of embryotomy 229
" " on post-partum hemorrhage 234
" " on uterine hemorrhage after labor 229
" Mr. J. H., on excision and amputation 134
Bateman, Mr. Henry, on the treatment of nævus 131
Bellini, Prof. R., on poisoning by phosphorus 83
Benson, Dr. J. H., on ascending and descending respiration 44
Bert, Dr. Paulo, on the reaction of phenic acid on strychnia 89
Bickerton, Mr. Thos., on recent improvements in the operative surgery of the eye ... 168
Bigelow, Dr. H. J., on the mechanism of dislocation and fracture of the hip 212
Bladder, on the detection and treatment of foreign bodies in. By Edward Lund, F.R.S.C 198
Blanc, Dr. H., on animal vaccination 271
Blistering, on, in acute rheumatism. By D. M'Gregor, L.R.C.P 109
Blood-stains, on the detection of red and white corpuscles in. By Joseph C. Richardson, M.D 87
Body, vesicular, in the anterior chamber. By Prof. Businelli 166
Boeck, Prof., on the nature of syphilitic infection, and the inoculability of the syphilitic virus 146
Boinet, M., case of multilocular cyst of the left ovary 181
Bonnafont, M., on inflammation of the membrana tympani 170
Braidwood, Dr. P. M., on animal vaccination 272
Bricheteau, Dr. F., on the treatment of syphilis 143
Bright's disease, lime water in the treatment of 58
" " prognosis in. By Austin Flint, M.D 59
Brodhurst, Mr. Bernard E., on the treatment of torticollis, or wry-neck 178
Bronchitis and catarrh, treatment of. By George Johnson, M.D 38
Bruits, auditory objective. By Dr. E. Leudet 170
Brunton, Dr. John, on the treatment of laceration of the perineum 234
Bryant, Mr. Thomas, a case of ovariotomy in a child 179
" " case of hydatid tumor of the abdomen, simulating ovarian disease, treated successfully by operation 179
" " cases illustrating the treatment of suppurating ovarian cysts, and some points connected with ovariotomy 180
" " remarks on a case in which aneurisms of the two popliteal arteries were cured by digital pressure 224
Bubo, on a complication of. By M. Clerc 203
" on subcutaneous injection of. By Dr. Wertheim 203
Businelli, Prof., case of vesicular body in the anterior chamber 167
Byrne, Dr., case of retroversion of the uterus 246

Calcaneum, on extirpation of the. By M. Polaillon 152
Calculus vesicæ, case where death followed the introduction of the lithotrite 200
Camphor, danger of giving strong doses of 108
Cancer of the large intestine, two cases of. By J. Cooper Forster 204
" treated by gastric juice. By Drs. Tansini and Pagello 140
" uterine, certain forms of. By C. F. F. Routh, M.D 262
Cancrum, oris on. By T. R. Glynn, M.B 169
Caradac, Dr., on rheumatic paraplegia 95
Carter, Mr. R. B., case of colotomy in cancer of the rectum 205
Castro, Dr. de, on the destruction of tumors 104
Cataract, congenital, in children, simulating short-sighedness. By J. Jeffries, M.D. 270
Catarrh and bronchitis, treatment of. By George Johnson, M. D 38
Cerebellum, the physiology and pathology of the. By W. A. Hammond, M.D 24

PAGE

Cervix, the surgery of the, in connection with certain uterine diseases. By T. Emmett, M.D. 239
Chairon, Dr., on the nature and co-ordination of hysterical phenomena 34
Chancres, the diagnosis of. By A. C. Haynes, M.D. 202
Chauvin, M., experiments with pancreatic juice 99
Cheadle, Dr. W. B. on exophthalmic goitre 173
Children, on the temperance of, in health and disease. By James Finlayson. M.D. 266
Children, lithotomy and lithotrity in. By F. Churchill 276
Children, diarrhœa in. By Dr. Müller 277
Children, effects of tobacco-smoke upon 280
Chloral, hydrate of, new experiments with. By MM. Dreulafoy and Krishaler 119
" on. By Benjamin W. Richardson, M.D., F.R.S. 118
" on the action of, on the economy. By Dr. Liebreich 115
" on the physiological action of. By M. Demarquay 116
" second report on. By M. Demarquay 117
" trials of, at the London Hospital 119
Chloroform, the administration of 171
Chlorosis, treatment of. By Wm. A. Hammond, M.D. 241
" on, and anæmia. By T. G. Thomas, M.D. 240
Cholera epidemics, the prophylactic action of copper in 104
" treatment of, by saline injection. By L. S. Little, F.R.C.S. 13
Churchill, Mr. F., on lithotomy and lithectasy in children 276
Ciliary muscle, hyperæsthesia of the. By Prof. Junge 165
Cimicifuga, poisoning by. By Dr. Garrison 85
Clark, Dr. Andrew, on the influence of pleurisy in the production of phthisis 41
Clark, Mr. Le Gros, on shock and visceral lesions 121
Cleaver, Dr., on carbolic acid in scarlatina 91
Clerc, M., on a complication of bubo 203
Cohnheim, Dr. Case of bursting of a varicose spleen 56
Collyria, the injudicious employment of. By Dr. J. Sichel 166
Colotomy, case of, in cancer of the rectum. By Robert B. Carter 205
" lumbar, further observations on. By W. Curling 205
" on lumbar. By R. Harrison 206
Conjunctivitis, catarrhal, on the contagious origin of. By M. Gosselin 153
Consumption, on quinia in. By Dr. Liebermeister 97
Consumption, the hypophosphites of lime and soda in. By R. P. Cotton, M.D. 92
Convulsions, two cases of, during dentition. By G. Stevenson Smith 268
Coombs, Dr. C. P. Case of dislocation of the patella 217
Copper, the prophylactic action of, in cholera epidemics 104
Corrosive sublimate, on the effect of, in improving the constitution. By Dr. H. Almès 102
Cotton, Dr. R. P., on the hypophosphites of lime and soda in consumption 92
" " on unusually rapid action of the heart 49
Counter-irritation, on. By R. B. Painter, M.D. 12
Couper, Mr. John, on inguino-scrotal hernia 191
Cranium, on trephining of the. By Baron Larrey 151
Crooks, Dr. W. C., on ice to the spine in menorrhagia 254
Curling, Mr. W., on lumbar colotomy 205
Curran, Mr. J. W., on the oxalate of cerium in the vomiting of pregnancy 227
Cylindrotænium, a new vegetable growth found in choleraic dejections. By Dr. Thomé 14
Czerny, Dr., on extension with weights 132

Da Costa, Dr., on functional valvular disorders of the heart 51
Death caused by aliments in course of digestion. By A. Foville, M.D. 55

PAGE
Death, on the causes of, after certain operations and wounds. By Dr. Verneuil..... 134
Deaths, unexpected, after injuries and operations. By M. Verneuil..... 134
Delirium tremens, report on the treatment of, in the hospitals of Great Britain..... 24
Demarquay, M., on the physiological action of chloral..... 116
" ..... second report on chloral..... 117
Depaul, M., on vaccination..... 270
Diabetes in a case of tumor of the medulla oblongata. By J. B. Dompeling, M.D. 62
Diabetes mellitus, on a purely milk diet in the treatment of. By Arthur S. Donkin, M.D..... 58
Diabetes treated with carbonate of ammonia. By F. W. Pavy, M.D., F.R.S..... 58
" treatment of, by peroxide of hydrogen. By T. Clifford Albutt, M.D..... 58
Diarrhœa of children. By Dr. Müller..... 277
" of infants, on the use of pepsine in the. By James S. Hawley, M.D..... 278
" uræmic. By J. M. Fothergill, M.D..... 55
Dickinson, Dr. W. H., on the enlargements of the viscera which occur in rickets ... 275
Diday, M., on the employment of ice in affections of the testis..... 201
Digitalis, on the therapeutical use of. By Dr. Kersch..... 92
" the action of, in typhoid fever. By Ernst Hankel, M.D..... 94
Disease, remarks on the nature and causes of. By Samuel Wilks, M.D..... 9
Dompeling, Dr. J. B. Diabetes in a case of tumor of the medulla oblongata..... 62
Donkin, Dr. A. S., on a purely milk diet in the treatment of diabetes mellitus..... 58
Donovan, Mr. M., on the process for preparing James's powder..... 106
Drasch, Dr., on the use of veratrum viride in inflammation of the lungs..... 98
Dreulafoy, M., on hydrate of chloral..... 119
Dubuisson, Dr., on the inoculation of tubercle..... 112
Duffin, Dr. Cases of septicæmia..... 19
Durham, Mr. Arthur E., on epithelioma of the œsophagus..... 176
Dysmenorrhœa membranacea, on the physiological therapeutics of. By Dr. Mandl. 243

Ear, on the application of caustics to the..... 170
Eclampsia and puerperal mania, relations between. By Dr. Seydel..... 250
Eczema, on. By Erasmus Wilson, F.R.S..... 62
" on the treatment of. By Erasmus Wilson, F. R.S..... 63
Electrical or lightning stroke, treatment after. By Benjamin W. Richardson, F.R.S..... 135
Electricity in parturition. By M. de St. Germain..... 227
Elephantiasis Græcorum, on the morbid anatomy of. By W. Moxon, M.D..... 80
Embryotomy, new method of. By Robert Barnes, M.D..... 229
Emmitt, Dr. T., on the surgery of the cervix in connection with certain uterine diseases..... 229
Epilepsy successfully treated with assafœtida..... 29
Epithelioma, on the treatment of, by chlorate of potash..... 102
" of the tongue, case of. By George E. Fenwick, M.D..... 172
Evans, Dr. M. G., on poisoning by nicotiana..... 86
Excision and amputation, cases illustrating the relative value of. By J. H. Barnes 134
Extension, on, with weights. By Dr. Czerny..... 132
Extremities, on the diseased elongation of the bones of the, in relation to surgical practice. By Prof. Langenbeck..... 223
Eye, on recent improvements in the operative surgery of the. By Thomas Bickerton 168

Fagge, Dr. Hilton, on splenic tumors..... 184
Fayrer, Dr. J., case of amputation of the arm at the shoulder-joint..... 210
" " on puncture of the knee-joint in the treatment of synovitis..... 214
Femur, treatment of, ununited fracture of. By Dr. Mignot..... 220

PAGE
Fenwick, W. G. E., case of epithelioma of the tongue 172
Fergus, Dr. Walter, on scarlatina 22
Ferrini, Dr. Giovanni, on the employment of sulphites in cases of purulent infection 115
Fever, relapsing, cases of 15
" rheumatic, treatment of. By J. Russell Reynolds, M.D., F.R.S. 15
" typhoid, digitalis in. By E. Hankel, M.D. 94
Fevers, treatment of. French medical practice 14
Finlayson, Dr., on the temperature of children in health and disease 266
Fischer, Dr., on septicæmic nephritis 57
" " George, on wounds of the heart and pericardium 187
Fistula, anal, different methods of operating for the cure of 204
Flamm, Dr., on the water-glass bandage 136
Flint, Dr. Austin, prognosis in Bright's disease 59
Foot, on erectile tumors of the. By Alfred Poland 212
Forceps, short, on the use of, in midwifery practice. By T. M. Madden, M.R.I.A. 232
Forster, Mr. J. Cooper, on acupressure and torsion 123
" " two cases of colloid cancer of the large intestine 204
Fothergill, Dr. G. M., on uræmic diarrhœa 55
Fournier, M., on blennorrhagic rheumatism 128
Foville, Dr., on instantaneous death caused by the passage of aliments in course of digestion 55
Fox, Dr. Tilbury, cases of tinea circinata 81
" " on contagious impetigo 74

Garrison, Dr., on poisoning by cimicifuga 85
Gascoyen, Mr. G. G., on syphilitic iritis 162
Geigel, M., on the sounds of the heart 52
Gelseminum sempervirens, galvanism as an antidote in poisoning by. By J. T. Main, M.D. 83
Girard, M., on measles 274
Glynn, Dr. T. B., on cancrum oris 169
Goodell, Dr. William, on concealed accidental hemorrhage of the gravid uterus 235
Goitre, exophthalmic. By W. B. Cheadle, M.D. 173
Gosselin, Dr., on the contagious origin of catarrhal conjunctivitis 153
Gout, treatment of. Hospital practice 17
Guttman, M., on the sounds of the heart 52

Habershon, Dr. S. O., on clinical therapeutics 96
Hemorrhage, concealed accidental, of the gravid uterus. By William Goodell, M.D., 235
" death by, from cerebral tumors 35
" *post-partum*. By Robert Barnes, M.D. 234
" *post-partum*, on peritoneal adhesions of the gravid uterus as a cause of. By Graily Hewitt, M.D. 244
" uterine, after labor. By Robert Barnes, M.D. 229
Hæmostasis, on the mechanism and insufficiency of forcible flexion of the forearm upon the arm as a means of. By M. Leon Tripier 209
Hammond, Dr. W. A., on sleep-producing agents 90
" " on some of the effects of the bromide of potassium when administered in large doses 93
" " on the physiology and pathology of the cerebellum 24
" " on the treatment of nervous headache 30
" " treatment of chlorosis 240
Hankel, Dr. Ernst, on the action of digitalis in typhoid fever 94
Hardy, Prof., on the prognosis and treatment of psoriasis 78

PAGE

Harelip, treatment of. By Lawson Tait 171
Harrison, M. R., on lumbar colotomy 206
Haviland, Mr. A., on sea-air and heart-disease 53
Hawley, Dr. James S., on the use of pepsin in the diarrhœa of infants 278
Haynes, Dr. A. C., on the diagnosis of chancres 202
Head, Dr., on a case of irreducible retroversion of the gravid uterus 244
Headache, treatment of. By W. A. Hammond, M.D 30
Heale, Dr. J. N., on the physiological rationale of pneumonia and bronchitis 45
Heart, additional notes on unusually rapid action of the. By R. P. Cotton, M.D 49
Heart and pericardium, on wounds of the. By George Fischer, M.D 187
Heart-disease, sea-air and. By Alfred Haviland 53
" on functional valvular disorders of the. By Dr. Da Costa 51
" reduplication of the sounds of the 52
Heath, Mr. Christopher, case of traumatic stricture 192
" " on the medicinal treatment of ulcers of the leg 215
Hemiplegia, lateral deviation of the eyes in cases of. By J. Hughlings Jackson, M.D. 34
Hernia, inguinal, cases of; operations for the radical cure under the care of Mr. John D. Hill 189
" reduction of en masse. By John Couper, F.R.C.S 191
Hewitt, Dr. Graily, on peritoneal adhesions of the gravid uterus as a cause of *post-partum* hemorrhage 244
Hicks, Dr. J. Braxton, cases of transfusion; with some remarks on a new method of performing the operation 239
Hill, Mr. John D., on the radical cure of inguinal hernia 189
Hinton, Mr. James, on mucus within the tympanum ..... *n* 169
Hip, the mechanism of dislocation and fracture of the. By H. J. Bigelow, M.D 212
Hoarseness and loss of voice, on. By Morell Mackenzie, M.D 28
Hood, Dr. W. P., on vaginismus 241
Hovell, Dr., on neurosis from moral shock 33
Huette, Dr., on dysenteric arthritis 11
Hutchinson, Mr. Jonathan, a case of stricture of the œsophagus 178
" " a curious case in which incontinence of urine was the first symptom of prostatic retention 196
" " on a curious instance of occasional sudden failure of sight 163
" " on the study of skin diseases 72
" " on the treatment of skin diseases 73
" " on transverse fracture of the patella 216
Hydatid cysts, the spontaneous cure of. By Charles Kelly, M.D 10
Hydatid tumor of the abdomen, remarks on. By Thomas Bryant 179
Hysterical phenomena, on the nature and consideration of. By Dr. Chairon 34

Ichthyosis, on. By M. Lailler 81
Impetigo, contagious. By Tilbury Fox, M.D 74
Infants, on the diarrhœa of. By J. S. Hawley, M.D 278
" food for 278
Inflammation, acute traumatic, on ligature of a main artery to arrest. By C. F. Maunder 127
Irido-choroiditis. By J. Soelberg Wells 158
Iritis, cases of. By G. G. Gascoyen, F.R.C.S 162
" on. By J. Soelberg Wells 157

Jackson, Dr. Hughlings, on lateral deviation of the eyes in cases of hemiplegia 34
" Mr. Vincent, case of amputation of the arm, with excision of the scapula .. 209

PAGE
James's powder, the process of preparing. By Michael Donovan 106
Jeffries, Dr. Joy, on congenital catarrh in children simulating short-sightedness 270
Jenkins, Dr. F. E., on poisoning by phosphorus 84
Johnson, Dr. George, on the treatment of catarrh and bronchitis 38
Joints, wounds of. By T. M. Parott 212
Jolly, Dr. Jacques, on catheterism in cases of cancer of the prostate 195
Jones, Mr. T. Wharton, occurrence of amaurotic amblyopia long after the injury 164
Junge, Prof., on hyperæsthesia of the ciliary muscle 165

Kelly, Dr. Charles, on the spontaneous cure of hydatid cysts 10
Kersch, Dr., on the therapeutical use of digitalis 92
Kiemann, Dr., on the use of veratrum viride in inflammation of the lungs 98
Knee-joint, on puncture of the, in the treatment of synovitis. By J. Fayrer, M.D. 214
Kohn, Dr., on the nature and therapeutics of lupus erythematosus 77
Koeberlé, Dr. E., on fibro-cystic tumors of the uterus 258
Krafft-Ebing, Dr. Von, on the treatment of encysted tumors of the scalp 151
Krishaler, M., experiments with hydrate of chloral 119
" Dr., on the removal of laryngeal polypi 175

Lachrymal sac, inflammation of the. By J. Soelberg Wells 161
Lafaurie, M., on the treatment of old luxations 132
Lailler, M., on ichthyosis 81
Larrey, Baron, on trephining of the cranium 151
Langenbeck, Prof., on the diseased elongation of the bones of the extremities in relation to surgical practice 223
" " on the treatment of aneurisms 124
Larynx, wound of, union by first intention. By M. Prestat 175
Lee, Mr. Henry, on albumen in the urine 140
Leudet, Dr. E., on auditory objective bruits 170
Liebreich, Dr., on the action of chloral upon the economy 115
Liégeois, M., on the seminal fluid in disease 136
" on the treatment of syphilis 144
Liebermeister, Dr., on the febrifuge properties of quinia, and its efficacy in pulmonary consumption 97
Lightning stroke, treatment after. By B. W. Richardson, M.D., F.R.S. 135
Linas, Dr., on fibrous tumors of the uterus 259
Lithotomy and lithectasy in children. By F. Churchill, M.R.C.S. 276
Little, Mr. L. S., treatment of cholera by saline injection 13
Lumbar colotomy, on. By Reginald Harrison 206
Lund, Mr. Edward, on the detection and treatment of foreign bodies in the bladder 198
" " on the use of antiseptic cere-cloth for covering "wounds" 95
Lungs, veratrum viride in inflammation of the. By Drs. Drasche and Kiemann 98
Lupus erythematosus, on the nature and therapeutics of. By Dr. Kohn 77
Luxations, on the treatment of. By M. Lafaurie 132
Lymph, vaccine, on the comparative protective powers of animal and human. By A. B. Steele 273

Mackey, Dr., on the value of tincture of cantharides in some forms of pyelitis 99
M'Gregor, Mr. D., on recently vaunted remedies 109
Mackenzie, Dr. Morell, on hoarseness and loss of voice 28
MacSwiney, Dr., case of hypertrophy of both mammæ 247
Madden, Dr. T. M., on the use of the short forceps in midwifery practice 232
Main, Dr. J. T., on galvanism as an antidote in poisoning by Gelseminum sempervirens 83

PAGE

Mammæ, hypertropy of both. By S. M. MacSwiney, M.D. 247
Mania, puerperal, and eclampsia, on the relations between. By Dr. Seydel 250
Marcet, Dr. W., on charcoal respirators 99
Martinelli, D., on pregnancy and delivery 226
Mason, Dr. E., case of stricture of the urethra 182
Mandl, Dr., on the pathology and therapeutics of dysmenorrhœa membranacea 243
Maunder, Mr. C. F., on abscess of the prostate 195
" " on ligature of a main artery to arrest acute traumatic inflammation 127
" " on treatment of the pedicle after ovariotomy 180
Measles, on. By M. Girard 274
Menorrhagia and uterine leucorrhœa, chromic acid in the treatment of. By David Wooster, M.D. 243
" ice to the spine in. By William C. Crooks, M.D. 254
Mercury, bichloride of, on the results of the subcutaneous injection of. By Dr. Rosenbach 103
Merscheim, Dr., on the treatment of syphilis 142
Meyer, Dr. William, on adenoid vegetations in the naso-pharyngeal cavity 154
Mignot, Dr., case of ununited fracture of the femur 220
Monti, Dr. Alois, on Calabar bean in trismus neonatorum 105
Moore, Dr. W., on the differential diagnosis of abdominal aneurism 186
Morat, M., experiments with pancreatic juice 99
Morgan, Mr., on fracture of the patella 217
Mott, Dr. Valentine, prescription for whooping-cough 42
Moutard-Martin, Dr., on arsenic in pulmonary phthisis 91
Moxon, Dr. W., on the morbid anatomy of elephantiasis Græcorum 80
" " on thrombosis 50
Muller, Dr., on the diarrhœa of children 277
Murmur, presystolic. By Hyde Salter, M.D. 50

Naso-pharyngeal cavity, on adenoid vegetation in the. By William Meyer, M.D. 154
Nephritic irritation, on the early indications of. By G. Owen Rees, M.D., F.R.S. 57
Nephritis, septicæmic. By Dr. Fischer 57
Neumann, Dr., on the effects of carbolic acid on the economy, on vegetable parasites, and diseases of the skin 81
Neurosis from moral shock. By Dr. de Berdt Hovell 33
Nicotiana, a case of poisoning by. By M. G. Evans, M.D. 86
Noeggerath, Dr., on ovariocentesis vaginalis 246
Nævus, the treatment of. By Henry Bateman 131
Nunnely, Dr., on the physiological action of atropine, digitaline, and aconitine, on the heart and great bloodvessels 89

O'Connor, Mr. T. J. H., on puerperal convulsions 251
Œsophagus, a case of epithelioma of the. By Arthur E. Durham 176
" a case of stricture of the. By Jonathan Hutchinson, F.R.C.S. 178
" obstruction of. By W. Stewart, M.D. 177
Ogier, Dr., case of absence of the vagina and uterus 256
Oils, fixed, on the detection of, in plants. By T. Bruce Warren 105
Ophthalmia neonatorum. By J. Soelberg Wells 156
Oulmont, Dr., on the action of veratrum viride and v. album 100
Ovarian cysts, suppurating, cases illustrating the treatment of. By Thos. Bryant 180
Ovariotomy in a child, a case of, with remarks. By Thos. Bryant 179
" on the treatment of the pedicle after. By C. F. Maunder 180
Ovary, case of multilocular cyst of the left. By M. Boinet 181

PAGE

Pagello, Dr., three cases of cancer treated by gastric juice 140
Painter, Dr. R. B., on counter-irritation 12
Palate, cleft, on the use of chloroform in the cure of. By Thomas Smith 171
Pancreatic juice, experiments with. By MM. Chauvin and Morat 99
Paralysis, certain forms of, depending on idea. By J. Russell Reynolds, M.D., F.R.S. 30
" treatment of, by electricity. By Walter G. Smith, M.B 31
Paraplegia, rheumatic, cured by nitrate of silver. By Dr. Louis Caradac 95
Parrott, Mr. T. M., on wounds of joints 212
Parturition, electricity in. By M. de St. Germain 227
" the pain of. By A. E. Sansom, M.D 228
Patella, case of dislocation of the. By C. P. Coombs, M.B 217
" fracture of, treated by Malgaigne's hooks. By John Morgan, F.R.C.S.I... 217
" some points in reference to transverse fracture of the. By Jonathan Hutchinson, F.R.C.S 216
Pavy, Dr. F. W., on the treatment of diabetes 58
Pégaitaz, M., on the action of veratrin 97
Pemphigus, case of, of the conjunctiva 167
Penis, amputation of, for epithelial disease—Ricord's operation 205
Pepper, Dr. W., on variolous disease 264
Perineum, on the treatment of laceration of the. By John Brunton, M.D 234
Peritoneum, on tuberculization of the. By E. Vallin, M.D 56
Pfeiffer, Dr., on the recognition before birth of the situation of the placenta 227
Phosphorus, on poisoning by. By Dr. T. E. Jenkins 84
" " By Professor R. Bellini 83
" " arrested by the essence of turpentine. By Dr. Andante 85
Phthisis, on the influence of pleurisy in the production of. By Andrew Clark, M.D. 41
" pulmonary, on the use of arsenic in the treatment of. By Dr. Moutard Martin 91
Pietro, Dr., on the effects of podophyllin 94
Placenta, on the recognition before birth of the situation of the. By Dr. Pfeiffer.... 227
Playfair, Dr. W. S., on the treatment of chronic uterine catarrh 242
Pleurisy, on the influence of, in the production of phthisis. By Andrew Clark, M.D. 41
Pneumonia and bronchitis, on the physiological rationale of. By James Newton Heale, M.D 45
" observations on the treatment of. By A. T. H. Waters, M.D 47
Podophyllin, on the effects of. By Dr. Pietro 94
Polaillon, Professor, on extirpation of the calcaneum 152
Poland, Mr. Alfred, on erectile tumors of the foot 212
" " on fusiform and tubular aneurism of the subclavian artery, and its treatment by compression 184
" " on rupture of the ureter 182
Polypi laryngeal, on removal of. By Dr. Krishaber 175
Potash, chlorate of, in epithelioma 102
Potassium, bromide of, effects of. By W. A. Hammond, M.D 93
" " in epilepsy. By D. M'Gregor, L.R.C.P., Edinburgh 109
" iodide of, in syphilis. By D. M'Gregor, L.R.C.P. Edinburgh 109
Pregnancy and delivery, anatomico-physiological and practical considerations on. By Dr. Martinelli 226
" the oxalate of cerium in the vomiting of. By J. W. Curran 227
Prestat, M., union by first intention of wound of the larynx 175
Prostate, on abscess of the. By C. F. Maunder, F.R.C.S 195
" on catheterism in cases of cancer of the. By Dr. Jacques Jolly 195
Psoriasis, on the prognosis and treatment of. By Prof. Hardy 78

PAGE

Puerperal convulsions, cases of. By T. J. H. O'Connor 251
" " on the treatment of. By Arthur Steele. 250
Pumpkin seed, fluid extract of 105
Purulent infection, the sulphites in case of. By Dr. Ferrini 115
Pyelitis, on cantharides in. By Edward Mackey, M.B 99

Quinia, on the febrifuge properties of, and its efficacy in pulmonary consumption. By Dr. Liebermeister 97

Rabuteau, Dr., on bromoform, bromal, and iodal 100
Readwin, Mr. T. A., on carbolic acid and human parasites 107
Rees, Dr. G. Owen, on the early indications of nephritic irritation 57
Remedies, on recently vaunted. By D. M'Gregor, L.R.C.P 169
Regurgitation, tricuspid, remarks on. By Henry G. Sutton, M.B 52
Respiration, ascending and descending. By J. H. Benson, M.D 44
Respirators, charcoal. By W. Marcet, M.D., F.R.S 99
Reynolds, Dr. J. Russell, on certain forms of paralysis depending on idea 30
" " on the treatment of rheumatic fever 15
Rheumatism, blennorrhagic, on. By M. Fournier 128
Riegel, Dr. Franz, on intra-uterine injections in the treatment of diseases of womb 251
Richardson, Dr. B. W., on chloral 118
" " on the treatment after lightning stroke 135
" Dr. Joseph C., on the detection of red and white corpuscles in blood-stains 87
Ricord, M., on vaccinal syphilis 142
Ringworm, cases of, under the care of Tilbury Fox, M.D 81
Rosenback, Dr., on the results of the subcutaneous injection of bichloride of mercury 103
Routh, Dr. C. F., on certain forms of uterine cancer 262
Ruggi, Dr., on the cicatrization of wounds 137

Salleron, Dr., on the treatment of tubercular disease of the testicle 196
Salter, Dr. Hyde, on pre-systolic murmur 50
Sanderson, Dr. J. Burdon, on the artificial production of tubercle 42
Sansom, Dr. A. E., on the pain of parturition 228
Scapula, amputation of the. By P. Heron Watson, M.D 207
Scarlatina, carbolic acid in. By H. T. Cleaver, M.D. 91
" on. By Walter Fergus, M.D. 22
Scurvy, treatment of. By W. H. Taylor, E.D 19
Seminal fluid, on the, in disease. By M. Liégeois 136
Septicæmia, cases of. Under the care of Dr. Duffin 19
Seydel, Dr., on the relations between eclampsia and puerperal mania 250
Shock and visceral lesions, lectures on. By F. Le Gros Clark, F.R.S 121
Sichel, Dr. J., on injudicious employment of collyria in general 166
Sidebottom, Mr., case of spina bifida successfully treated by ligature 183
Sight, curious instance of occasional sudden failure of 163
Simon, Prof. G., on the action of urine and saliva on tissues which are not protected by epithelium 194
Skin diseases, a lecture on the treatment of. By Jonathan Hutchinson 73
" hints as to the study of. By Jonathan Hutchinson 72
" methods of treating certain diseases of the. By M'Call Anderson, M.D 74
" notes on the treatment of diseases of the 73
" on the therapeutics of diseases of the. By M'Call Anderson, M.D 66

PAGE
Sleep producing agents. By W. A. Hammond, M.D. ... 90
Smith, Dr. G. M., on sunstroke ... 36
" Dr. W. G., on the treatment of paralysis by electricity ... 31
" Mr. G. S., two cases of convulsions ... 268
" Mr. Henry, calculus vesicæ; case where death followed the introduction of the lithotrite ... 200
" Mr. Thomas, on the use of chloroform in the cure of cleft palate ... 171
Spas, German, a visit to some of the. By M'Call Anderson, M.D. ... 113
Speculum, new vaginal ... 263
Spence, Mr. James, case of traumatic varicose femoral aneurism ... 218
Spender, Dr. J. D., clinical notes on the treatment of syphilis ... 149
Spina bifida, case of, successfully treated by ligature. By Edward Sidebottom ... 183
Spleen, case of bursting of a varicose. By Dr. Cohnheim ... 56
Steele, Mr. A. B., on the comparative protective powers of animal and human vaccine lymph ... 273
Steele, Mr. Arthur, on the treatment of puerperal convulsions ... 250
St. Germain, M. de, on electricity in parturition ... 227
Stevenson, Dr., toxicological cases ... 92
Stewart, Dr. W., a case in which a live fish found its way into the œsophagus, and was impacted for about sixteen hours ... 177
Storer, Dr. H., on the rectum in its relations to uterine diseases ... 241
Stricture, traumatic, case of. By Christopher Heath, F.R.C.S. ... 192
Struma, a severe case of. Under the care of Mr. Paget ... 130
Strychnia, on the reaction of phenic acid on. By Dr. Paulo Bert ... 89
Submaxillary gland, tumors of the. By Dr. Talazac ... 153
Sulphites, on the employment of the, in cases of purulent infection. By Dr. Ferrini 115
Sunstroke, on. By G. M. Smith, M.D. ... 36
Suppuration, on the theory of. By Eben. Watson, M.D. ... 137
Sutton, Dr. Henry G., on tricuspid regurgitation and mitral pre-systolic bruits, with case ... 52
Syphilis, cases illustrating the diagnosis of ... 150
" clinical notes on the treatment of. By J. K. Spender, M.D. ... 149
" on the treatment of. By M. Liégeois ... 144
" " By Dr. A. Merscheim ... 142
" treatment of. By Dr. Bricheteau ... 143
" vaccinal, on. By M. Ricord ... 142
Syphilitic infection, on the nature of. By Professor Boeck ... 146

Tait, Mr. L., on a new method of using needles in the operation for harelip ... 171
Talazac, Dr., on tumors of the submaxillary gland ... 153
Tansini, Dr., three cases of cancer treated by gastric juice ... 140
Taylor, Dr. W. H., on scurvy ... 19
Taylor, Dr. A. S., on homicidal and suicidal wounds of the throat ... 82
Teale, Mr. T. P., on atrophy induced by cicatrix and its surgical value ... 282
Teevan, Mr. W. F., on stricture of the urethra ... 192
Testicle, tubercular disease of. By Dr. Salleron ... 196
Testis, on the employment of ice in affections of the. By M. Diday ... 201
Tetanus, traumatic, treatment of. By Eben. Watson, M.D. ... 137
Therapeutics, clinical. By S. O. Habershon, M.D. ... 96
Theurkauf, Dr. Julius, on typhus exanthematicus ... 21
Thomas, Dr. T. G., on anæmia and chlorosis ... 240
Thomas, Dr. T. Gaillard on the management of after-pains ... 238
Thomé, Dr., on cylindrotænium ... 14
Thrombosis, two cases of, with remarks. By W. Moxon, M.D. ... 50

PAGE
Torsion and acupressure, on. By J. Cooper Forster..... 123
Torticollis, or wry-neck, treatment of. By B. E. Brodhurst, F.R.C.S..... 178
Toxicological cases. By Thomas Stevenson, M.D..... 90
Transfusion, cases of, with some remarks on a new mode of performing the operation. By J. Braxton Hicks, M.D., F.R.S..... 239
Tripier, M. Leon, on the mechanism and insufficiency of forcible flexion of the fore-arm upon the arm as a means of hæmostasis..... 209
Trismus neonatorum, Calabar bean in. By Dr. Alois Monti..... 105
Tubercle, on the artificial production of. By J. Burdon Sanderson, M.D., F.R.S.... 42
Tuberculous products, on the effects of the inoculation and ingestion of. By Dr. Dubuisson..... 112
Tumors, encysted, of the scalp, on a simple method for the radical cure of. By Dr. Von Krafft-Ebing..... 150
" of the submaxillary gland, on. By Dr. Talazac..... 153
" on the destruction of. By Dr. de Castro..... 104
" splenic, on. By Hilton Fagge, M.D..... 184
Tympani membrana, inflammation of the. By Monnafont..... 170
Tympanum, on accumulation of mucus within the, and its treatment. By James Hinton..... 169
Typhus exanthematicus, on. By Dr. Julius Theurkauf..... 21
Tyson, Dr., on myomata of the uterus, &c..... 255

Ulcers of the leg, medicinal treatment of. By Christopher Heath, F.R.C.S..... 215
Ureter, on rupture of the. By Alfred Poland..... 182
Urethra, stricture of. By W. F. Teevan..... 192
" case of stricture of the. By E. Mason, M.D..... 182
Urine, albumen in the, as a consequence of surgical diseases and operations. By Henry Lee..... 140
Urine and saliva, on the action of, on tissues which are not protected by epithelium. By Professor G. Simon..... 194
Urine, incontinence of, the first symptom of prostatic retention. By Jonathan Hutchinson, F.R.C.S..... 196
Uterine catarrh, treatment of. By W. S. Playfair, M.D..... 242
" disease, the rectum in its relations to. By H. Storer, M.D..... 241
Uterus, a remarkable case of retroversion of the. By J. Byrne, M.D..... 246
" case of prolapsus of the. By W. Allison..... 238
" gravid, case of irreducible retroversion of the. By Dr. Head..... 244
" on fibro-cystic tumors of the. By E. Kœberlé, M.D..... 258
" practical remarks on fibrous tumors of the. By Dr. A. Linas..... 259
" retroflexion of, in a single woman, caused by lifting a heavy weight..... 245
" myomata of the. By Dr. Tyson..... 255

Vaccination, animal. By H. Blanc, M.D..... 271
" " By P. M. Braidwood, M.D..... 272
" " and human. By A. B. Steele..... 273
" on. By M. Depaul..... 270
Vagina, congenital absence of the, and uterus. By T. L. Ogier, M.D..... 256
Vaginalis, ovariocentesis. By Dr. E. Noeggerath..... 246
Vaginismus, treatment of. By W. P. Hood..... 241
Vallin, Dr. E., on peri-umbilical inflammation in tuberculization of peritoneum..... 56
Variolous disease, a contribution to the clinical history of. By W. Pepper, M.D..... 264
Veratrin, action of. By M. Pégaitaz..... 97
Veratrum viride and V. album, action of. By Dr. Oulmont..... 100

PAGE

Veratrum viride, on the use of, inflammation of the lungs. By Drs. Drasche and Kiemann 98
Verneuil, Dr., on unexpected deaths after injuries and operations 134
Viscera, on the enlargements of the. By W. H. Dickinson, M.D. 275
Vitality, extraordinary, of a new-born infant 267

Warren, Mr. T. Bruce, on the detection of fixed oils in plants 105
Waters, Dr. A. T. H., on the treatment of pneumonia 47
Watson, Dr. Eben., on the theory of suppuration 137
" " on the treatment of traumatic tetanus 127
" Dr. P. H., case of amputation of the scapula with two-thirds of the clavicle and the remains of the arm 207
Wells, Mr. J. Soelberg, on inflammation of the lachrymal sac 161
" " on irido-choroiditis 158
" " on iritis 157
" " on ophthalmia neonatorum 156
Wertheim, Dr., on subcutaneous injection of bubo 203
West, Mr. J. F., on popliteal aneurism 224
Whooping-cough, prescription for. By Valentine Mott, M.D. 42
Wilks, Dr. Samuel, on the nature and causes of disease 9
Wilson, Mr. Erasmus, on eczema 62
" " on the treatment of eczema 63
" " on leichen planus 67
Womb, on intra-uterine injections in the treatment of diseases of the. By Dr. Riegel 251
Wooster, Dr. David, on the treatment of menorrhagia and uterine leucorrhœa 243
Wounds, contributions to the study of cicatrization of. By Dr. Ruggi 137
" of the throat, on homicidal and suicidal. By Alfred S. Taylor, M.D., F.R.S. 82
" on the use of antiseptic cere-cloth for covering. By Edward Lund, F.R.C.S. 95

END OF VOL. L.

THE

HALF-YEARLY ABSTRACT

OF THE

MEDICAL SCIENCES:

BEING

A DIGEST OF BRITISH AND CONTINENTAL MEDICINE,

AND OF

THE PROGRESS OF MEDICINE AND THE COLLATERAL SCIENCES.

Apparatu nobis opus est, et rebus exquisitis undique et collectis, arcessitis, comportatis.
CICERO.

EDITED BY

WILLIAM DOMETT STONE, M.D., F.R.C.S. (EXAM.)

VOL. LI.

JANUARY—JUNE, 1870.



PHILADELPHIA:
HENRY C. LEA.
1870.

PHILADELPHIA:
COLLINS, PRINTER, 705 JAYNE STREET.

CONTENTS OF VOL. LI.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

Sect. I.—General Questions in Medicine.

ART.		PAGE
1.	On Cerebral Apoplexy in cases of considerable Pleuritic Effusion. *M. Vallin*	9
2.	The Pathology of Cerebral Hemorrhage. *MM. Charcot* and *Bouchard*	10
3.	Idiopathic General Cerebritis. *Dr. Charles Elam*	11
4.	The Microscopic Morbid Appearances met with in the Brains of the Insane. *Drs. J. B. Tuke* and *William Rutherford*	13
5.	Two Cases of "Porencephalie." *M. Heschel*	14
6.	On Dust and Haze. *Prof. Tyndall*	15
7.	On the Differential Characters of Contagion and Infection. *M. Moura*	18
8.	Experimental Researches upon the Production of Œdema. *M. Ranvier*	18
9.	On the Influence of Morbid Changes in the Blood on the Variations in the Temperature of the Human Body. *M. Andral*	19
10.	Anosmia: Cases illustrating the Physiology and Pathology of the Sense of Smell. *Dr. William Ogle*	20
11.	On Loss of Smell. *Dr. Notta*	21
12.	Select Clinical Cases, including Cases of Labio-glosso-Laryngeal Paralysis, Exophthalmic Goitre, Arterial Pyæmia, General Chronic Arteritis, and Saturnine Gout. *Dr. Samuel Wilks*	23
13.	Clinical Notes. *Dr. S. O. Habershon*	24
14.	On a New Method of Treating Gout. *Dr. Fontaine*	25
15.	On the Prevention and Treatment of Scarlet Fever. *Dr. Charles F. Routh*	25
16.	Treatment of Scarlet Fever. *Sir William Jenner*	26
17.	On Scarlatina sine Eruptione. *Mr. C. H. Robinson*	27
18.	Cold-Water Treatment of Fever. *Dr. Drasche*	28
19.	On the Use of the Thermometer in Typhoid Fever. *M. Constantine Paul*	31
20.	Relapsing Fever. *Dr. Charles Murchison*	31
21.	On the Morphological Process in Inflammation. *Prof. Billroth*	32
22.	On Tubercular Ulceration of the Mouth and Tongue. *M. Trélat*	34
23.	On the Propagation of Cancer and Tubercle to the Surface of the Pleural Serous Membrane, and especially to the Diaphragmatic Pleura. *M. Lepine*	34
24.	On the Origin of Pus Globules. *MM. Vulpian* and *Hayem*	35
25.	On Relapsing Fever. *Dr. Broadbent*	38
26.	Cancerous Affections Successfully Treated. *Dr. E. A. Kunkler*	39
27.	On Sea-Sickness. *Dr. Fordyce Barker*	39
28.	Hemorrhagic Malaria. *Dr. L. Michel*	41
29.	Influence of Nutriment on Disease. *Dr. Salisbury*	41

Sect. II.—Special Questions in Medicine.

(a) *Concerning the Nervous System.*

30.	An Inquiry into the Nature, Origin, and Treatment of Hysteric Diseases. *Dr. Robert Lee*	42
31.	Acute Hysteria in the Male—Treatment by Hypodermic Injection of Morphia. *Dr. Julius Althaus*	44
32.	Hysterical Aphonia. *Dr. F. H. Tanner*	45
33.	Clinical Facts in reference to Chorea. *Prof. Steiner*	45
34.	Contributions to the Pathology of Chorea. *Dr. M. Tuckwell*	46
35.	A Case of Severe Chorea during Pregnancy successfully treated with Hydrate of Chloral. *Dr. James Russell*	41
36.	Trophic Disturbances in Neuralgia. *M. Nothnagel*	40
37.	The Morrisonian Lectures on Insanity. *Dr. Arthur Mitchell*	49
38.	On the Treatment of Paralysis. *Dr. A. D. Rockwell*	59
39.	On Spinal Irritation. *Dr. William A. Hammond*	53
40.	Tetany or Remittent Tetanus. *Dr. Walter Maxon*	57

(b) *Concerning the Respiratory System.*

ART.		PAGE
41.	Observations on the Treatment of Certain Complications of Hooping-cough by Means of the Oil of Turpentine. *Dr. Bedford Brown*	53
42.	On Pleuritis. *Dr. James R. Leaming*	55
43.	Tapping of the Chest in Acute Pleurisy. *Dr. Murchison*	57
44.	A Case of Empyema treated by Paracentesis, and subsequently by Blistering; Cure. *Dr. Andrew Clark*	58
45.	On Hæmoptysis. *Dr. George Johnson*	58
46.	Case of Collier's Lung. *Mr. T. P. Pick*	59
47.	The Indications for Tracheotomy in Cases of Laryngitis and Diphtheria. *Dr. George Johnson*	60
48.	The Local Treatment of Croup. *Dr. Adolph Weber*	62

(c) *Concerning the Circulatory System.*

49.	On the Signs of Pericarditis. *M. Noel Gueneau de Mussy*	63
50.	On Endocardial Ecchymosis in Cerebral Hemorrhage. *MM. Joffroy* and *Charcot*	66
51.	Dr. Sibson's Croonian Lectures on Aneurism of the Aorta at the Royal College of Physicians	66
52.	Specimen of Congenital Malformation of the Heart. *Dr. Robert Hunter Semple*	70

(d) *Concerning the Alimentary System.*

53.	Therapeutics of Chronic Constipation. *Dr. John Kent Spender*	70
54.	Treatment of Diarrhœa at the Evelina Hospital for Sick Children	72
55.	On Hæmatemesis and Perforating Ulcer of the Stomach. *Dr. George Johnson*	73
56.	Specimens of Ulcers of the Stomach. *Dr. Charles Murchison*	74
57.	On the Etiology and Treatment of Simple Ulcer of the Stomach. *Dr. C. Gerhardt*	74
58.	Hydatid Disease of the Liver. *Dr. Stephen H. Ward*	75

(e) *Concerning the Genito-Urinary System.*

59.	On Certain Morbid Changes in the Nervous System, Associated with Diabetes. *Dr. William Howship Dickinson.*	79
60.	Cases Illustrating the influence of Opium and some of its Constituent Principles in the Treatment of Diabetes. *Dr. F. W. Pavy*	81
61.	On the Diagnostic Value of the Corpuscular Blood Elements in the Urine of Bright's Disease. *Dr. Joseph G. Richardson*	82

(f) *Concerning the Cutaneous System.*

62.	The Lectures on Dermatology at the College of Surgeons. *Prof. Erasmus Wilson*	83
63.	Remarks on Feigned or Hysterical Diseases of the Skin. *Mr. James Startin*	87
64.	Constitutional Treatment of Diseases of the Skin. *Dr. J. McCall Anderson*	92
65.	On Prurigo. *Mr. Erasmus Wilson*	94
66.	The Local Treatment of Eczema Rubrum vel Madidans. *Dr. John Kent Spender*	95
67.	Employment of Phosphorus in Psoriasis. *Prof. Hardy*	95
68.	On the Treatment of Psoriasis and Chronic Eczema by Hypodermic Injections of Arsenious Acid. *M. Lipp*	96
69.	Cutaneous Eruptions resulting from the Administration of Bromide of Potassium. *Dr. William Cholmeley*	97
70.	Pathology of Alopecia Areata. *Prof. Rindfleisch*	98
71.	Elephantiasis Arabum	99

Sect. III.—Forensic Medicine.

72.	On Metallic Poisoning. *Dr. E. D. Mapother*	99
73.	Case of Poisoning by Ergot. *Dr. G. S. Oldright*	100
74.	A Case of Poisoning by Aconite. *Mr. Robert Dunn*	101
75.	Poisoning by Extract of Belladonna. *Dr. Hibbert Taylor*	101
76.	On Essence of Turpentine as an Antidote in Cases of Poisoning by Phosphorus. *M. Personne*	102
77.	Remarks on a Case of Sudden Death in Ovariotomy while the Patient was under the Influence of Chloroform. *Sir James Y. Simpson.*	103
78.	On Death by Chloroform. *Dr. Benjamin W. Richardson*	104

ART. PAGE
79. Death from Bichloride of Methylene at Guy's Hospital 105
80. The Process for Detecting Blood in Medico-Legal Cases. *Dr. A. S. Taylor* . 105
81 On Poisoning by Hydrocyanic Acid and the Cyanides. *M. Bonjean* . . 106
82. The Antidote for Haschisch. *Prof. Polli* 106
83. On Strychnine as an Antidote to Chloral. *M. Liebreich* 106

Sect. IV.—Therapeutics.

84. On Hydrate of Chloral. *M. Bouchut* 107
85. Remarks on the Use of Hydrate of Chloral in Affections of the Nervous System. *Dr. T. S. Clouston* 108
86. On the Use of Hydrate of Chloral per Anum 108
87. On the Dangers from the Administration of Chloral. *M. J. V. Laborde* . . 109
88. Experiments with Chloral. *Dr. Hasket Derby* 109
89. On the Chloral Treatment of Eclampsia. *Baron Paul von Seydewitz* . . 110
90. Chloral Hydrate 111
91. Therapeutic Note on Chloral. *Sir James Y. Simpson* 112
92. On Chloral and its Therapeutical Uses 113
93. The Mode of Preparing Chloral and its Hydrate 114
94. On the Alkaloids of Veratrum Viride and their Therapeutical Effects. *Dr. Horatio Wood, Jun.* 115
95. On the Effects of Arsenic in Phthisis. *Dr. Isnard* 116
96. On the Treatment of Asthma by Tobacco. *Dr. Sée* 117
97. On Cincho-Quinine, a New Preparation from Peruvian Bark 117
98. Therapeutical Use of Arsenic in Phthisis. *Dr. Nonat* 117
99. On the Employment of Veratrin in Subcutaneous Injections. *Dr. Pégaitaz* . 118
100. Danger of Injections of Perchloride of Iron in Sanguineous Tumors . . 120
101. The Therapeutical Value of the Sulphites. *Dr. J. W. Miller* 120
102. Contribution to the Therapeutics of Laryngeal Diphtheria. *Dr. J. Albu* . 121
103. The Glycerine of Tannin. *Dr. Meredith Clymer* 122
104. On the Production of Rapid Anæsthesia, and on a New Anæsthetic Compound for that Purpose—Methylic Ether. *Dr. Benjamin W. Richardson* . . 123
105. The Administration of Anæsthetics. *Dr. A. Ernest Sanson* 125
106. Protoxide of Nitrogen as an Anæsthetic. *M. Jeannel* 125
107. On the Influence of Chloroform in Promoting Cutaneous Absorption. *Dr. Augustus Waller* 126
108. Absorption of Iodide of Potassium by the Skin. *Dr. Ferrand* . . . 126
109. Methylic Ether as an Anæsthetic. *Dr. B. W. Richardson* 127
110. Memoranda respecting the Administration of Chloroform 127
111. On the Combined Action of Morphia and Chloroform. *Prof. Claude Bernard* 128
112. On a Solution of Morphia for Hypodermic Injection. *Mr. William Martindale* 129
113. On the Effect of Opium and its Derivative Alkaloids. *Dr. S. Weir Mitchell* . 130
114. Action and Uses of Ipecacuanha. *Dr. C. D. Phillips* 131
115. Physiological Effects of Curara. *Prof. Paul Bert* 132
116. Oxide of Silver in Whooping-Cough. *Dr. William Macfarlane* . . 133
117. Permanganate of Potassa in the Treatment of Certain Female Diseases. *Dr. A. M. Williams* 133
118. The Composition of Chlorodyne. *Mr. Edward Smith* 134
119 On the Toxic Value of Certain Products of the Phenic Group. *M. P. Guyot* . 134
120. Self-Illuminating Ophthalmoscope. *Mr. Lionel Beale* 135
121. The Stetho-Sphygmograph. *Dr. T. Hawksley* 135
122. The Use of Carded Oakum as a Surgical Dressing 135
123. On the Clinical Uses of Electricity. *Dr. J. Russell Reynolds* 136
124. Thermometric Observations in Clinical Medicine. *Mr. J. F. Goodhart* . . 136
125. Cases of Cholera treated by Hypodermic Injection of Liquor Ammoniæ. *Mr. A. Christison* 137
126. On the Therapeutical Employment of Compressed Air in Asthma and Emphysema. *Dr. Gent* 138
127. On Cutaneous Absorption. *Dr. Brémond* 138
128. Hyposulphite and Bisulphite of Soda in Intermittent Fever. *Dr. John P. Little* 138
129. Hæmostatics. *Mr. William Hargrave* 139
130. On Flexion as a Means of arresting Hemorrhage. *Dr. Adelmann* . . . 141
131. A Case of Angina Pectoris relieved by Nitrate of Amyl. *Dr. F. E. Anstie* . 141
132. On Digitalis in Heart Disease. *Dr. Sydney Ringer* 142
133. On the Properties and the Mode of Elimination of the Nitrites of Sodium and Potassium. *Dr. Rabuteau* 142
134. Action of Various Substances on Urine. *Dr. F. B. Nunneley* . . . 143

ART. PAGE
135. Copaiba as a Diuretic 134
136. On Haschisch in Hydrophobia. *Prof. Polli* 134
137. Quinine as an Antipyretic 144
138. Carbolic Acid Preparation. *Mr. T. A. Redwin* 147
139. The Physiological Action and Therapeutical Uses of the "Acidum Phosphoricum Dilutum." *Dr. J. B. Andrews* 148
140. Mineral Waters as Therapeutic Agents. *Dr. Hanbury Smith* . . . 150
141. On the Internal Use of Carbolic Acid for Syphilis. *Dr. M. Köhn* . . . 151
142. On the Employment of Carbolic Acid in Surgery. *Dr. Joseph English* . . 152

PART II.—SURGERY.

Sect. I.—General Questions in Surgery.

143. On the Differences between Inflammation and Pyretic Diseases. *Prof. Bouillaud* 155
144. On Carbuncular Inflammation. *Mr. Thomas Smith* 155
145. Case of Pyæmia, with Singular Eruptive Symptoms. *Dr. Anstie* . . . 156
146. On Recurrent Hemorrhage. *Mr. James Paget* 157
147. On the Employment of Digital Compression and of Flexion in the Treatment of Aneurisms. *Dr. Fischer* 158
148. On Torsion. *Mr. Cooper Forster* 160
149. Clinical Lecture on Periostitis, &c. *Mr. James Paget* 162
150. On Compound Fractures. *Mr. Samson Gamgee* 163
151. On Excision of the Joints for Disease, and especially of the Knee, Hip, and Elbow. *Mr. Frederick James Gant* 164
152. On the Treatment of Effusions of Blood in Cases of Compound Fracture. *M. Bourquet* 165
153. Nævoid Elephantiasis. *Mr. Thomas Smith* 165
154. A Case of Traumatic Tetanus Treated by Subcutaneous Injection of Calabar Bean. *Dr. William Haining* 166
155. A Case of Traumatic Tetanus Treated Successfully with Douches and Shampooing. *M. Brachet* 166
156. On Certain Points in the Treatment of Venereal Diseases. *Mr. W. Johnson Smith* 167
157. On the Treatment of Constitutional Syphilis by the use of Creasote and Carbolic Acid. *Mr. John Morgan* 167
158. Case of Syphilis Treated by the Subcutaneous Injection of the Perchloride of Mercury. *Dr. M'Call Anderson* 168
159. On Induration in Syphilis. *M. Victor de Meric* 169

Sect. II.—Special Questions in Surgery.

(a) *Concerning the Head and Neck.*

160. Clinical Lecture on Injuries of the Head. *Mr. James Paget* 170
161. When, and when not, to Trephine. *Baron Larrey* 171
162. Extraordinary Recovery from Extensive Saw-wound of the Skull. *Dr. A. C. Fulsom* 172
163. Total Loss of Nose through Disease; Rhinoplasty by a New Method; Successful Result. *Mr. John Wood* 173
164. Notes of a Case of Expansion of the Antrum of Highmore. *Mr. Charles Hewitt Moore* 174
165. On Strangulation of the Tonsils. *Dr. Houze de l'Aulnoit* 174
166. Case of Salivary Fistula; Recovery after the Introduction of a Probe. *Mr. Pick* 175
167. Modifications of Astigmatism produced by the Accommodation. *Dr. W. Dobrowsky* 175
168. Operation for Dynamic Divergent Strabismus, in reference to Progressive Myopia. *A. Von Graefe* 176
169. The Extirpation of the Fibro-cartilage of the Upper Eyelids for the Cure of Certain Cases of Entropion and Trichiasis. *Dr. B. A. Pope* 178
170. Contributions to the Pathology of Burns of the Cornea from Lime. *Dr. H. de Gouvéa.* 179
171. A Method of Corelysis. *Dr. G. Passavant* 179
172. Further remarks upon the Peripheral Linear Section for Cataract. *Prof. A. von Graefe* 180
173. Extraction of Double Cataracts with Closed Pupils, and Recovery of Good Sight, after Thirty Years' Total Blindness. *Mr. J. Berncastle* 180
174. A Method of dressing Eyes after Cataract Extraction, and other Ophthalmic Operations requiring Rest by Exclusion of Light. *Dr. G. R. Agnew* . . 181

ART. PAGE
175. Injury of Left Eye from Foreign Body; Twenty-six Years afterwards Sympathetic Inflammation in the Right; Extirpation of the Injured Eye, followed by very rapid Recovery of the other. *Mr. Soelberg Wells* 182
176. Report on the Use of Setons and other Counter-Irritants in Diseases of the Eye 183
177. On Counter-Irritation in Eye Disease. *Mr. Furneaux Jordan* . . . 185
178. Epithelioma of the Lip. *Mr. Erichsen* 185
179. Operations for removal of Epithelial Cancer of the Tongue 186
180. Pendulous Pedunculated Bronchocele successfully Removed. *Dr. George C. Blackman* 188
181. On Catheterism of the Larynx. *Dr. Weinlechner* 188
182. A Temporary Tracheotomy 190
183. On Ulceration of the Internal Carotid Artery in Caries of the Petrous Portion of the Temporal Bone *M. Jacques Jolly* 190

(b) *Concerning the Trunk.*

184. Clinical Lecture on the Treatment of Stricture. *Mr. James Paget* . . . 192
185. Observations on Lithotomy, and on Certain Cases of Enlarged Prostate. *Sir William Fergusson* 193
186. Lithotrity and Lithotomy. *Mr. Holmes Coote* 196
187. On the Recurrence of Vesical Calculus. *Mr. Walter Coulson* . . . 196
188. On the Symptomatic Reflex Neuralgiæ of Gonorrhœal Orchi-Epididymitis. *M. Charles Mauriac* 197
189. Recto-Vesical Lithotomy. *Dr. Louis Bauer* 198
190. Clinical Lecture on Hernia. *Mr. James Paget* 199
191. Large Femoral Hernia in a Male. *Dr. John M. Bryan* 200
192. Strangulated Femoral Hernia in a Man—Operation after Fifty-six Hours—Recovery. *Mr. C. H. Moore* 201
193. Case of Sloughing Hernia. *Dr. Patrick Heron Watson* 202
194. Statistics of Hernia from an Etiological Point of view. *Dr. A. Wernher* . 203
195. Double Scrotal Tumor on Left Side, formed by Hydrocele of the Tunica vaginalis, and Hydrocele of the Cord: Clinical Remarks. *Sir W. Fergusson* . 204
196. Case of Inguino-Crural Rupture. *Mr. C. Holthouse* 204
197. Lymphatic Varices of the Penis and Scrotum following Contusion. *M. Trélat* 205
198. On Gangrene of the Penis. *M. Demarquay* 205
199. Immediate Treatment of Contusion of the Perineum with Laceration of the Urethra. *Dr. Stephen Rogers* 207
200. On some of the Functional Derangements of the Male Genital Organs. *Mr. W. F. Teevan* 208
201. Acute Orchitis treated by Puncture. *Mr. Nunn* 208
202. On Subcutaneous Injection of Bubo. *Dr. Wertheim* 209
203. On the Treatment of Orchitis by Incision. 209
204. Analysis of 184 Cases of Stone in the Bladder of the Adult treated by Lithotrity *Sir Henry Thompson* 210
205. Preventive Treatment of Syphilis. *Prof. Thiry* 212
206. Extraction of a Catheter by the Umbilicus. *M. Foltz* 212
207. Remarkable Case of Intussusception in an Infant. *Dr. J. W. Wilson* . . 213
208. On Imperforate Anus. *Mr. Christopher Heath* 214
209. On Polypus and Stricture of the Rectum. *Mr. Holmes Coote* 215
210. Removal of the Lower End of the Rectum, with the Prostate, Prostatic Urethra, and part of the Neck of the Bladder, for Epithelioma. *Prof. Nussbaum* . 217
211. On Carcinoma of the Mammary Gland. *Mr. W. Scovell Savory* . . . 218
212. Removal of Uterus and its Appendages. *M. Péan* 218
213. On Points to be observed in Ovariotomy. *Dr. D. Lloyd Roberts* . . . 219

(c) *Concerning the Upper Extremity.*

214. On some Peculiar Results of Injury to Digital Nerves. *Mr. W. M. Banks* . 221
215. Aneurism Cured by the Subcutaneous Injection of Ergotine. *Prof. Lengenbeck* 223
216. Dislocation of both Bones of the Forearm Forwards. *Dr. Forbes* . . . 224
217. Dislocation of the Atlas upon the Axis. *Dr. Forbes* 225
218. Extirpation of Clavicle. *Dr. Britton* 226

(d) *Concerning the Lower Extremity.*

219. On Rachitis. *Mr. Holmes Coote* 226
220. On the Value of Extirpation of the Calcaneum. *Prof. Polaillon* . . . 227
221. Case of Aneurism of the Profunda Femoris, cured by Compression in Twenty-four Hours. *Mr. John Erichsen* 228
222. A Case of Popliteal Aneurism Treated by Digital Compression; Cured in Sixteen Hours. *Mr. B. Holt* 229
223. A Case of Popliteal Aneurism. *Mr. G. E. Legge Pearse* 230
224. On the Reproduction and Reunion of Divided Tendons. *M. Demarquay* . 231
225. On the Treatment of Rupture of the Ligamentum Patellæ. *Dr. Sistach* . . 232

ART. PAGE
226. On Disease of the Knee-Joint. *Mr. Thomas Bryant* 233
227. On Resection of the Knee. *M. Pénières* 234
228. Retro-Curvation of the Knee. *Dr. Louis Bauer* 235
229. A Case of Compound Fracture of the Patella: with an Analysis of Fifty-six Cases of that Injury. *Mr. A. Poland* 236
230. On Amputation at the Knee-Joint. *Mr. G. D. Pollock* 237
231. Amputation at the Knee-Joint by Modified Lateral Flaps. *Dr. Stephen Smith* 238
232. Fractures of the Femur. *Mr. T. W. Nunn* 238

PART III.—MIDWIFERY.

Midwifery and Diseases of Women and Children.

(a) *Concerning Pregnancy and Parturition.*

233. The Induction of Premature Delivery as a Prophylactic Resource in Midwifery. *Dr. T. Gaillard Thomas* 240
234. Note of a Case of Rigid Os Treated by Hydrochlorate of Apomorphia. *Dr. Milne* 250
235. On the Application of Electricity in Labor. *M. de Saint-Germain* . . 251
236. Successful Version after Failure of the Forceps. *Dr. J. Braxton Hicks* . . 251
237. Successful Reduction of Prolapsed Funis by the Postural Method. *Dr. John Brunton* 252
238. Case of Partial Placenta Prævia; Version; Recovery of Mother and Child. *Dr. Jasher Cargill* 252
239. Case of Partial Placenta Prævia, terminating Successfully without Manual Interference. *Mr. Edward Adams* 253
240. On Transfusion of Blood. *Dr. Ch. Marmonier* 254
241. Report of a Case of Puerperal Fever treated by the Injection of Ammonia into the Veins. *Dr. Tyler Smith* 254
242. On the Cæsarean Operation. *M. Guéniot* 255
243. Peritonitis and Death following an Intra-Uterine Injection. *Dr. Haselberg* . 256
244. On the Complication of Pregnancy with Ovarian Disease. *Mr. T. Spencer Wells* 257
245. On the Cæsarean Operation. *M. Tarnier* 258

(b) *Concerning the Diseases of Women.*

246. A Case of Multiple Cysts of the Ovary taken for a Unilocular Cyst; Puncture; Death from Peritonitis in Fifty-two Hours; Remarks on the Chemical and Toxical Properties of Ovarian Fluid. *Dr. Vernevil* 259
247. Some Remarks on Lactation. *M. E. Decaisne* 262
248. On Chancrous Induration in the Female. *Dr. Alfred Fournier* . . . 263
249. On Puerperal Diseases. *Dr. J. Braxton Hicks* 263
250. On Puerperal Fever. *Dr. Wynn Williams* 265
251. On Puerperal Convulsions. *Dr. J. Hall Davis* 265
252. Cases of Metro-Cellulitis. *Dr. Hall Davis* 266
253. Absence of Uterus in two Sisters. *Dr. Phillips* 267
254. On the Glands of the Mucous Membrane of the Neck of the Uterus. *Dr. Despres* 267
255. On Fundal Endometritis. *Dr. C. H. Routh* 268
256. On the Etiology and Treatment of Puerperal Metritis. *Dr. Hervieux* . . 269
257. On Intra-uterine Injections in the Treatment of Puerperal Metritis. *Dr. Hervieux* 271
258. Chronic Metritis in its Relation to Malignant Disease of the Uterus. *Dr. E. Noeggerath* 273
259. Fibroid of the Uterus; Repeated Hemorrhages; Transfusion; Recovery. *Dr. Gentilhomme* 276
260. On Rupture of the Uterus. *D. Ewing Whittle* 277

(c) *Concerning the Diseases of Children.*

261. On the Mortality of New-born Children 277
262. On the Treatment of Incontinence of Urine in Childhood and Youth by Collodion. *Sir D. J. Corrigan, Bart.* 278
263. On Infantile Palsy. *Dr. Richard Volkmann* 279
264. The Sulpho-Carbolates in the Treatment of Certain Diseases of Children. *Dr. Ernest Sansom* 279
265. Notes on Anointing in Infantile Disorders. *Dr. H. Guard Knaggs* . . 280

APPENDIX.

1. The Present Prospects of the Sewage Question in relation to the Public Health, with a brief Review of the First Report of the Commissioners appointed in 1868 to inquire into the best means of preventing the Pollution of Rivers. *Dr. Henry Letheby* 281

HALF-YEARLY ABSTRACT

OF

THE MEDICAL SCIENCES,

ETC.

PART I.

PRACTICAL MEDICINE, PATHOLOGY, AND THERAPEUTICS.

SECT. I.—GENERAL QUESTIONS IN MEDICINE.

ART. 1.—*On Cerebral Apoplexy in Cases of considerable Pleuritic Effusion.*[1]

By M. VALLIN.

(*Gazette Hebdomadaire*, No. 5, 1870.)

M. VALLIN reports a case of a soldier, twenty-one years of age, who was admitted into the Val-de-Grace with pleurisy on the left side and considerable effusion filling about two-thirds of the left pleural cavity. The heart was pushed over to the right side. No abnormal bruits. Right side of chest healthy. In spite of an energetic treatment the effusion increased and the fever persisted. Thoracentesis was indicated, but M. Vallin decided upon postponing the operation until the appearance of the first symptoms of imminent asphyxia. Thirteen days after admission, the patient suddenly became unconscious and hemiplegic on the right side, sensibility remaining intact. Thoracentesis was immediately performed, but with no good results, and was repeated at the end of a week. At this time a loose patch of gangrene was noticed on the sole of the right foot. The symptoms abated after the second operation, and the paralysis gradually disappeared. The pleuritic effusion, however, returned, and necessitated a third performance of thoracentesis. The patient slowly sank from exhaustion, and died at the end of the third month after admission. At the post-mortem examination a patch of softening was found in the left cerebral hemisphere, near the corpus striatum, and at the posterior extremity of this an excavation filled by a creamy fluid, the walls of which were irregular, of a bright yellow color, and composed of soft and pulpy cerebral tissue retained in a network of fine and pale capillaries. This pulpy material presented under the microscope capillary loops, abundant fatty molecules, granular corpuscles analogous to those of colostrum, some hæmatoidin, and some altered blood corpuscles.

Two branches of the artery to the Sylvian fissure were found completely obliterated by a fibrinous clot.

M. Vallin makes the following observations on this case:—

"What interpretation is to be given of this cerebral lesion? Evidently we have here not cerebral hemorrhage, but rather softening consecutive to vascular obliteration caused by embolism. The coincidence of the gangrenous patch on the right foot asserts the probability of migratory clots. It being admitted that at a given moment the emboli may be formed simultaneously, it remains to determine the starting point of these obstructing bodies. The heart and large vessels were perfectly healthy, and in no part of them could a trace of clot be found. But the interval of ten months between the attack and the autopsy explains sufficiently the failure of this search. If it be recollected, however,

[1] Communicated to the Société Médicale des Hôpitaux.

that on the thirteenth day after admission the effusion was very abundant, that the heart was much pushed away from its normal position, and that the pulse was small and feeble, it might be admitted that, at a certain moment, in consequence of the torsion of the artery and the deviation of the heart, and from the general inflammatory condition and the augmentation of fibrin, a small quantity of blood, slackened in its course, became coagulated in one of the chambers on the left side of the heart, and that, under the influence of some movement on the part of the patient, or palpitation, the clot thus formed was displaced and thrown into the greater circulation.

"It would probably be considered right to invoke in this case thrombosis of the pulmonary veins as the origin of the arterial embolism. One may conceive how much the circulation would be impeded in a lung impermeable to air, and thrust backwards by the side of the spine; beyond the flattened capillaries of the pulmonary artery the blood stagnates, and coagulates in certain radicles of the veins of the lung, and one may well be astonished that the rapid return of the circulation in an organ thus weakened is not accompanied more frequently after thoracentesis by accidents of an embolic character. In this probably we may find the explanation of certain sudden deaths in cases of pleurisy, either during the course of the effusion, or after the operation, as have been observed by Trousseau and others."

Hitherto rapid death, preceded for a few moments by agony and struggling, has been attributed—and the autopsy has sometimes justified this view—to obliteration of the pulmonary artery by an autochthonous clot, or by an embolus from the right side of the heart, whilst instantaneous and sudden death has been explained by syncope (by reflex irritation of the nerves of the heart). This latter hypothesis is admitted in default of a better one, and in the absence of any appreciable lesion.

M. Vallin makes the remark that if, in his patient, the apoplectiform attack had been immediately fatal, he would probably have overlooked the cerebral lesion, for a certain time is required for the arrest of circulation to produce any appreciable disturbance; and thus this case would have been classed as one of death by syncope. It is necessary, therefore, not to conclude too hastily as to the apparent integrity of the cerebral tissue in the absence of all vascular obliteration. It is probable that if, in most cases of sudden death during pleurisy, an examination of the brain and its vessels had been made with all desirable care, the key of the problem would have been discovered.

M. Vallin has sought in the works of authorities for cases of coincident apoplectiform attacks followed by softening with considerable pleuritic effusion, but has not gained much information. He found, however, in the *Bulletin de la Société Anatomique* of 1861, a case of an aged female, who in the course of an acute pleurisy was taken with hemiplegia, and died in twenty-four hours. The autopsy showed an obliteration of the anterior cerebral artery by a fibrinous clot without any appreciable lesion of the cerebral tissue. The left ventricle of this patient contained old fibrinous clots. M. Potain, the reporter of this case, attributes the symptoms to an embolism; but it does not seem that he established the relation between the pleurisy and the formation of the clots. In the *Army Medical Report* for 1859, M. Vallin discovered a very similar case to his own. This case was one of a soldier, who in the course of a pleurisy, with a vast amount of effusion, was suddenly attacked with apoplexy attended by hemiplegia; six weeks afterwards the patient succumbed to emphysema: localized softening of the brain was found, which had destroyed the whole of the corpus striatum. Unfortunately the arteries of the brain were not examined.

Art. 2.—*The Pathology of Cerebral Hemorrhage.*

By MM. Charcot and Bouchard.

(*Archives de Physiologie Normale et Pathologique; Gaz. Méd. de Paris*, Mars 12, 1870; and *Brit. and For. Medico-Chirurgical Review*, April, 1870.)

Charcot and Bouchard, examining the causes to which cerebral hemorrhages are usually referred, find that they may be arranged in three groups: (1) Dimi-

nution of the consistence of cerebral tissue to such a degree that it does not furnish sufficient support to the vessels; (2) Increased tension of the blood, depending on hypertrophy of the left ventricle, atrophy of the kidneys, &c.; (3) Diminished resistance of the vessel in consequence of change in the walls (fatty degeneration or atheromatous incrustation).

Some of these (as hemorrhagic *ramollissement*, for example,) are doubtful; others appear to be only accessory. This the authors find, with regard to arterial atheroma, that it is not present in 22 per cent. of cases, and that it is only present in a marked degree in 25 per cent. Again, hypertrophy of the heart was not present in 40 per cent. of cases. These statistics are founded on examination of sixty-nine cases. The only pathological condition which MM. Charcot and Bouchard have constantly met is an aneurismal state of a certain number of the small intra-cerebral vessels. From the small size of these aneurisms the authors give them the name of miliary aneurisms. They are visible to the naked eye. They appear as small globular grains, varying in diameter from two-tenths of a millimètre to a millimètre, and sometimes a little larger. If they contain liquid blood, their color is red or violet; if, on the other hand, the blood is concreted or has undergone transformation, the aneurism is red-brown, ochry, or even blackish. The color is also influenced by the variable thickness of the wall. The optic thalami, the corpora striata, the convolutions, the pons, the cerebellum, the centrum ovale, the middle peduncles of the cerebellum, the cerebral peduncles, the medulla oblongata, are the parts in order of frequency where these aneurismal dilatations have been most frequently met by the authors.

This distribution, they remark, agrees with that of cerebral hemorrhages. Seen under the microscope with a low power, the vessels present a fusiform or sacciform dilatation. With a higher power it is seen that the wall of the aneurism is continuous with the tunics of the vessel which is its seat, but the three tunics are not distinct, they are fused, and the thickness of the aneurismal wall is less than that of the three normal coats of the vessel, a fact which accounts for their proneness to rupture. Careful observation of the aneurismal vessel reveals alteration of structure (*arterite scléreuse*). This change proceeds from without inwards, for the most considerable changes have their seat in the outer parts of the vessel, and the atrophy of the muscular coat depends on change in the adventitious tunic—whence the name periarteritis which they propose for it.

Art. 3.—*Idiopathic General Cerebritis.*[1]

By Charles Elam, M.D.

(*The Lancet*, April 16.)

The object of the paper was to indicate the existence of a special inflammatory affection of the substance of the brain, not complicated by any altered condition of the meninges, and differing widely in most of its essential characters from any form of cerebritis or encephalitis hitherto described in systematic works on the subject. This was called *General Acute Idiopathic Cerebritis.* Its principal phenomena, positive and negative, were these: uniformity in its commencement, beginning with vomiting; uniformity in its termination, ending with death. Its duration was from thirty-six hours to twelve days. Its progress was remarkable from the absence of the striking phenomena that generally characterize compound cerebritis—that is, the form that is accompanied by meningitis. There was no convulsion, no paralysis, but little delirium, and that mild and transitory, and coma only supervened shortly before death, as it might do in many general affections. Three cases were selected from a number as illustrations, with brief details of the post-mortem examinations. This sketch was intended to supply a link in our nosological system, which, as

---

[1] Abstract of a Paper read at a Meeting of the Royal Medical and Chirurgical Society, March 22.

it appeared to the author, had been in great measure, if not altogether, hitherto missing.

The President expressed a high sense of the value of Dr. Elam's communication. He believed that it was very rare to have inflammatory affections of the brain in which the membranes did not participate, and asked for the experience of the Fellows upon this point.

Dr. Clifford Allbutt had been greatly interested by the paper. It appeared that in one case much post-mortem change had been found, in the other two nothing but congestion. Such cases as the last are perplexing. What are they? In the two no microscopic examination was made; in the one there were exudation corpuscles in the brain-substance. He hardly knew in what sense the word "brain" had been used by the author, and had observed no mention of the state of the mesocephalic ganglia. Even in the one case, how far was the state cerebritis? In the other two the use of the term was questionable. Proliferation of the connective tissue of the brain was a matter of great and unusual interest. He himself was only acquainted with partial encephalitis, and had only seen this either artificially produced by injuries, or existing at the borders of morbid growths.

Dr. Charlton Bastian knew nothing of uncomplicated cerebritis, from knowing no anatomical distinction characteristic of it. He thought the evidence did not entitle Dr. Elam to call himself the discoverer of such a disease. Dr. Elam had brought forward three cases which agreed in no one particular. In the first the most noticeable morbid change was hyperæmia, in the second general softening, in the third induration. These surely could not be placed in the same category. Of the first it would be very hazardous to speak. In the third it was impossible to believe that induration could have taken place from any acute change. It was a chronic process in all organs; in the brain, a chronic overgrowth of neuroglia. In the second case the chief point was the existence of exudation corpuscles, and these are now known to be the ordinary accompaniments of all degenerative changes; so that there was nothing to differentiate the change described from *ramollissement*. The very universality of the change was an argument against its inflammatory character, because the brain is a multiple organ as regards its blood-supply, so that inflammation would affect its different portions independently. We should look for the causes of inflammation in one of three elements—either in the connective tissue, the nerve tissue, or the bloodvessels; and pathological changes in any of these three may be followed by other pathological changes in the region implicated. No reliance could be placed on symptoms as evidence of the nature of disease. An affection of the hemispheres would produce different symptoms from the same affection of the pons Varolii or of the cerebellum. Symptoms would not be dependent on the nature of the structural change, but on the part in which that change took place.

Dr. Radcliffe said that thoughts like those to which Dr. Bastian had given expression had passed through his mind while listening to the paper. He could scarcely allow that the post-mortem evidence adduced in support of the existence of cerebritis as defined by Dr. Elam, was conclusive, but he was chiefly disposed to call in question the symptomatology of the disorder. He believed that the accounts of encephalitis in the ordinary text-books required revising; that acute pain in the head, and active delirium or high fever, or active symptoms of any kind, were not the symptoms commonly met with; but that mental dulness and indifference rapidly deepening, ushered in by vomiting, with little or no feverishness, and with little or no disposition to paralysis beyond weakness of the bladder, were the usual symptoms, not only when the substance of the brain without the membranes, was affected, but also when the membranes were implicated in the imflammation. He, therefore, would not regard the symptoms given by Dr. Elam as diagnostic of cerebritis *pur et simple* as being really so diagnostic.

Dr. Wynn Williams inquired how soon after parturition the disease had shown itself in the case of the adult lady, and mentioned instances in which somewhat similar symptoms, leading to a fatal issue, had been attributed to the absorption of putrid matters after delivery.

Dr. Habershon believed that every one must frequently have been perplexed by the absence of post-mortem change in cases of apparent tubercular meningitis. Dr. Bastian had drawn attention to a correct division of these instances, according as they might be due to changes in the tissue elements or in the bloodvessels. In the latter case he believed that manifest hyperæmia was often due to capillary embolism; and he doubted if we should be warranted in regarding the changes described by Dr. Elam as being due to acute general inflammation.

Dr. Charlton Bastian wished to supply an omission in his former observations. He had frequently found that general turgescence was due to capillary obstruction, occlusions of various kinds disseminated throughout the brain; and he had found similar obstructions in other organs, as the liver, with clear evidence, from the consecutive tissue changes around them, that they had been formed during life.

Dr. Elam, in replying, said that he had selected three cases having a certain distinct clinical relationship. The changes were general—universal over the brain. The disease was acute—sudden in its invasion, without premonitory symptoms, rapid in its progress to death. The post-mortem changes were general, and had a certain relation. In the second case the brain was diffluent; and if the first patient had lived twelve days, his brain might probably have been in a similar condition. In the third patient there was no induration, but the texture was a little firmer than natural, with the hardness of the first stage of inflammation. This case lasted as long as No. 2; but the difference in the rate of morbid change might be due to the difference of age—one patient being a boy of thirteen, very young for his years; the other the mother of three children. In all, the changes were such as we are accustomed to call inflammatory. In No. 2, besides the very great softening, there was the roseate tint of the tissue, which stained a knife, and the presence of the exudation corpuscles. It was certainly much to be regretted that disease should be so illogical as to produce results which it ought not to produce, but it was our most important duty to trace facts as they occurred.

ART. 4.—*The Microscopic Morbid Appearances met with in the Brains of the Insane.*

By J. B. TUKE, M.D., and WILLIAM RUTHERFORD, M.D.

(*Edinburgh Medical Journal*, October.)

Drs. Tuke and Rutherford have published some careful observations of the morbid appearances presented by the brains of thirty insane persons. All the brains examined were those of patients who had been the subjects of chronic insanity. The forms of disease under which they had labored were general paralysis, dementia with paralysis, chronic dementia, epileptic insanity. The autopsies were made within thirty-six hours after death. The specimens of nervous matter were immersed in spirit and afterward in a solution of chronic acid. The sections were colored with ammoniacal solution of carmine, rendered transparent by spirit of turpentine, and set up in Canada balsam of glycerine. The parts of the brain examined were the tips of the frontal and occipital lobes, the convolutions on either side of the fissure of Rolando near the vertex, corpora striata, optic thalami, cerebellum, pons Varolii, medulla oblongata, and any portion which was manifestly the seat of the disease. In every case marked departure from healthy structure was observed. The morbid appearances noted were as follows: 1. Gray degeneration or sclerosis. This lesion has been observed by the authors (1) in the white matter of the corpus striatum; (2) in that of the cerebrum and cerebellum; (3) in that of the pons and medulla oblongata. It was found in eighteen instances; in nine of chronic dementia; in three of chronic mania; in three of general paralysis, and in three of epileptic insanity. This lesion the authors have observed in the white matter only. They agree with Rokitansky in regarding it as primarily a modification of the connective tissue or neuroglia—viz., fibrillation and increase of the neurogliar matrix, together with proliferation of its nuclei. The nerve tubes in the diseased tracts *appear* to undergo atrophy. The authors have seen no evidence of the production of

fatty particles from the wasted tubes in the brain. Colloid bodies sometimes appear in degenerated tracts, but not frequently. 2. Miliary sclerosis. Semi-opaque whitish spots, resembling very small millet seeds; they vary in size from one-fortieth of an inch downwards, and are almost confined to white nerve-matter. They consist of semi-opaque molecular material lying amid a few exceedingly delicate colorless fibres. This lesion is due to the formation of cell-like masses of molecular material, in each of which a nucleus is sometimes discernible. By these bodies the nerve-tubes and bloodvessels are pushed aside, and may be seen curving round the diseased tracts. The authors suppose that these bodies originate in the nuclei of the neuroglia, not by proliferation, but by the transformation of a single nucleus into a cell-like body. This change they have observed in the white matter of the convolutions in four cases, in one in the white matter of the cerebellum. 3. Holes, in the white matter of the brain, varying from one-fiftieth of an inch downwards. The authors have met them most frequently in the corpus striatum, but also in the pons Varolii, and in the white matter of the convolutions. The holes have ragged edges, owing to the abrupt termination of nerve elements at their margins. The authors are uncertain as to their nature. Unlike those recently described by Lockhart Clarke, they have no apparent connection with bloodvessels. 4. Changes in nerve-cells. Atrophy of the pyramidal cells of the convolutions of the vertex was observed in three cases. They had shrunk to one-eighth of their normal size. Pigmentary degeneration of nerve-cells was frequently observed in the pyramidal and other cells of the cerebral convolutions, in the cells of the corpora striata and the corpora dentata of both cerebellum and medulla oblongata. For this change the authors suggest the name *fuscous degeneration*. 5. Changes in nerve-tubes. Atrophy of nerve-tubes was frequently observed. Pigmentary degeneration of the nerve-tubes of the anterior and posterior roots of the spinal nerves was observed in a case of chronic dementia complicated with chorea. 6. Changes in bloodvessels. Fatty degeneration of the vessels of the pia mater and cerebrum was frequently observed. In general paralysis, tortuosity, and aneurismal dilatation of the capillaries; on the walls proliferation of neurogliar cells and deposits of hæmatoidin were not unusual. In a case of paralytic dementia there was marked dilatation of the peri-vascular canals. 7. Granulations of the lining membranes of the ventricles and of the pia mater of the parietal and occipital lobes, and of the medulla oblongata, were observed in many cases of general paralysis, and old-standing mania and dementia. They were the result of changed epithelium. 8. Amyloid and colloid bodies were seldom absent from the brains of old-standing cases. The former readily colored with carmine not exceeding twice the size of the human blood-corpuscle, the latter much larger and unaffected by carmine. The names amyloid and colloid are applied without reference to theory to distinguish them. "Virchow holds that one or other or both of these bodies are normal, or at least the result of natural decay. But the fact that they are more common in the brains of the insane than the sane, and the immense numbers in which they occur, suggest that they are actual morbid products." 9. Changes in nuclei of neuroglia. In some cases the number seemed diminished; proliferation, however, was more common. The authors do not regard the morbid appearances they have enumerated as the cause of insanity. They think it more likely they are the result of weakened or perverted evolution of the nerve-plasm. Nor do they regard these lesions as confined to cases of mental insanity, for they are well aware that certain of these morbid appearances occur in subjects where the insanity has only affected the muscles, and where the mental faculties have remained unimpaired.

Art. 5.—*Two Cases of "Porencephalie."*

By M. Heschel.

(*Prag. Vierteljahrschrift für die Praktische Heilkunde*, 1868; *and British and Foreign Medico-Chirurgical Review*, April, 1870.)

M. Heschel has reported two cases of a rare affection, to which he gives the name "porencephalie." Fistulous passages exist, establishing a communication

between the arachnoid cavity on the surface of the hemispheres and the lateral ventricles. The following are the cases: A man, æt. forty-two, tuberculous. The left arm one-fifth shorter than the right, atrophied. The right inferior extremity is a little thinner than the left. *Autopsy.*—Cranium hard and thick. The whole dura mater covered by points of exudation. In the right temporal region the dura mater was adherent with the pia mater, and there were scattered adhesions towards the convolution of the hemispheres. From the part of the temporal region where the adhesion existed, a canal traversed the cerebral mass, and opened into the inferior cornu of the right lateral ventricle. The external opening of this canal was oval, five centimètres in length, three in breadth; it was slightly narrowed in the lower part. The walls of the canal were brownish. The rest of the brain was healthy. The lungs and liver were filled with tubercles; the latter contained also echinococci.

The second case was observed in 1865, it was that of a man, æt. fifty-five, also tuberculous. *Autopsy.*—The cranium was thick and compact. The brain of normal volume; the left cerebral hemisphere was traversed by a canal, which commenced at the origin of the principal superior convolution by a round opening, an inch wide, and proceeded a little forward to the left lateral ventricle. The external opening was covered by the cerebral membranes, and the walls were membranous. The rest of the brain was healthy. There were exudations on the dura mater, with depression of the surface of the cerebrum. Tubercles of the lungs, caries of the dorsal vertebræ.

Art. 6.—*On Dust and Haze.*[1]

By Professor Tyndall, LL.D., F.R.S., M.R.I.

(*Medical Times and Gazette*, Jan. 29.)

The learned Professor began his lecture by stating that a sunbeam on entering a dark room becomes visible by illuminating the particles of dust floating therein. A beam of powerful light, such as that of the electric lamp, will prove the existence of these floating particles in the air of this room, or indeed in that of any other, even of the best ordered drawing-room in London, although they are invisible by the light of ordinary candles or gas. Some months ago, when he was engaged in a course of experiments on the action of light upon various vapors, he found this dust exceedingly troublesome. The air was wholly loaded with it, and although in his experiments it was of great importance to have the air entirely free from it, it became a matter of considerable difficulty to get rid of it. An "experimental tube" was filled with air which had been passed through tubes containing fragments of glass wetted with concentrated sulphuric acid, and marble wetted with a strong solution of caustic potash; but although the air was thoroughly dried by this means, the particles of dirt were carried along with it, and a beam of light passed through the tube discovered them in quantities as great as in common air. But it was found that by passing the air over a flame before letting it enter the drying tubes, every particle of dust was destroyed, and the beam of light passed through the "experimental tube" was *invisible*, owing to the absence of any illuminated particles. What did this prove? It showed, to his own astonishment, that this floating dust consisted of particles of combustible, and therefore organic matter—that the air which constantly surrounds us, which we are continually breathing, is loaded with living organisms, which are of necessity constantly passing into our lungs—that the dirt of the air of London is organic, and not, as he had supposed, of the same nature as the sand of the desert of Sahara, inorganic, incombustible. To make this matter quite certain, Mr. Valentin, of the Royal College of Chemistry, constructed for him a gas furnace so arranged as to heat a platinum tube, and a roll of platinum gauze; the air was

---

[1] Abstract of a Lecture delivered at the Royal Institution of Great Britain, Albemarle street, Jan. 21.

made to pass through this tube and gauze, so as to insure the contact of the dust with the hot metal, and the result is given by the following table :—

Quantity of Air.	*State of Platinum Tube.*	*State of Experimental Tube.*
15 inches.	Cold.	Full of particles.
"	Red-hot.	Optically empty.
"	Cold.	Full of particles.
"	Red-hot.	Optically empty.
"	Cold.	Full of particles.
"	Red-hot.	Optically empty.

That is to say, when the air was passed *cold* into the experimental tube, the floating particles were not destroyed, and passed along with the air ; but when the particles were consumed by the hot platinum, the experimental tube was " optically empty," there being no floating dust in it for the beam of light to illuminate.

The following table gives the results of experiments in which the air was allowed to pass into the experimental tube under various conditions of speed and temperature :—

Quantity of Air.	*State of Platinum tube.*	*State of Experimental Tube.*
15 inches, *slow*,	Cold.	Full of particles.
" "	Red-hot.	Optically empty.
" *quick.*	Red-hot.	A blue cloud.
" "	Intensely hot.	A fine blue cloud.

The cloud which appeared in the experimental tube when the air was passed quickly through the platinum was the smoke of the particles burned in the furnace. He had failed in his attempts to burn the particles in the open air by intense heat, but a flame of a spirit-lamp held immediately under the electric beam gave a result which caused him the most intense astonishment. In common with every chemist he had hitherto considered the flame of a spirit-lamp to be entirely smokeless. What then was his surprise to find that, on holding the flame under the beam, volumes of intensely black " smoke " were given off, blacker than he ever had seen issue from the funnel of a steamer ! He tried several other flames ; he burned spirit of wine on cotton wool ; he tried the flame of a Bunsen's burner with a tall chimney, but always with the same result. Wreaths of the blackest " smoke " ascended through the beam of light, showing themselves in the distinctest manner. The question then arose, Could this blackness be smoke at all ? Could no other cause be assigned to explain the phenomenon ? To settle this question, he tried a flame of pure hydrogen gas, in which it was impossible that carbon could be to make real smoke. But, on this being held beneath the electric beam, the same black wreaths ascended. A mass of red-hot iron gave the same result. What then was this darkness which was shown to exist in cases where smoke was impossible ? It was simply the darkness of stellar space—the darkness caused by the absence of organic dust, showing that pure air is dark by virtue of its own intense transparency. Nothing could demonstrate more clearly the invisibility of the medium which renders all things visible. The flame held under the beam destroys the floating particles, and a stream of pure air ascends across the horizontal beam, which, jostling aside the dust-laden air, causes a black band of pure transparent air free from illuminated dust (in appearance exactly like smoke) to take its place across the beam. But it was also discovered that it was not necessary to consume the dust in order to produce pure air. It was found that a sphere of heated copper held beneath the beam of light produced the same " smoky " appearance, and that, too, even after the temperature of the copper had fallen below that of boiling water. Upon this it was suggested that a sphere of boiling water would produce the same result, and this was found to be the case, although in a less degree. The reason of this is simple ; the heated body quickly heats the air immediately surrounding it, but

not the particles; the pure hot air ascends and makes its dark track across the beam, but the particles are left behind.

The learned Professor then showed that any gas, provided it was free from these floating particles of dust, would produce the same dark mark across the beam of light. He took a common glass shade, and placed it with its mouth downwards so that the beam should pass right through it from side to side. The shade being full of the air of the room, the light was of course visible all the way through it. He then introduced into the upper part of the shade, above the beam of light, a tube connected with a reservoir of hydrogen gas. The hydrogen soon filled the upper part of the shade, and, occupying more and more space as its volume increased, it speedily filled the greater part of the shade, the beam of light *in* the shade fading from the sight of the spectators as the hydrogen occupied the space traversed by it. The shade being removed, the beam of light reappeared instantaneously in its place, but on the hydrogen being allowed to escape, a darkness as of a cloud of smoke passed across the beam, which immediately after its passage resumed its usual unbroken aspect. A gentleman present seemed inclined to question the success of this experiment, but the learned Professor partially repeated it, and completely proved his point. Having then observed that any other gas—*e.g.*, common coal gas—would serve equally well for this experiment, he said that, seeing that the air we are constantly breathing is so entirely laden with these particles of organic matter, the wonder is that so small a portion of it is sometimes hurtful to human life. For some time an opinion had prevailed that contagious diseases were spread by a malaria; it was believed that matter in a state of decay entered people's bodies and produed in them conditions of decay like to its own. It was seen that the process of fermentation went on in this way, and that a little leaven leavened the whole lump. Why, then, it was asked, should we not believe that diseases propagate themselves thus? But in 1836 an answer was given to this question by the discovery of the yeast plant, and fermentation was shown to be a process of life instead of one of decay. In 1837 Schwann discovered that meat highly heated and excluded from air never putrefied. Putrefaction is, then, the result of something derived from the air, which has the power of propagating itself in the body, and must be a living organism such as the dust of the air has been shown to contain. The "germ theory" of the propagation of disease has been slowly gaining ground in the opinions of medical men, and, at a time when it was thought improbable by many of them, the President of this institution was one of its ablest advocates. These germs floating in the air enter the human frame, and growing there, produce various disorders. In this way the Asiatic cholera, from a small beginning in the delta of the Ganges, in seventeen years occupied nearly the whole world. And the action of these germs has its exact counterpart in another part of nature's field; for as an acorn will produce an oak bearing a crop of acorns each capable of reproducing its parent tree, and so a whole forest may spring from a single seedling, so a germ of smallpox lodged in the body will produce a crop of pustules each one capable of reproducing germs like to the original one. Medical men know well how important it is to exclude the air from abscesses when they are being operated on, and instruments are specially constructed for this purpose; yet although the pus extracted on the first operation is sweet, on the second and all other operations it is generally putrescent, and swarming with living organisms called *vibrios*. This is caused by the germs clinging to the trocar, and by it introduced into the abscess, flourishing therein under favorable conditions of temperature and food. The only way to "clean" the canula and trocar of these germs is to heat the instruments as highly as their temper will allow. It was an ascertained fact that the troublesome hay-fever was caused by these same vibrios.

Having shown that it is useless to try to blow away the dust from a beam by means of bellows, since the dust from the bellows immediately replaces that blown away, the learned professor proceeded to experiment on the state of the human breath as it issues from the lungs. His lungs being full of the common air of the room, he breathed through a heated tube so as to cause the breath to ascend through the beam of light, at the same time preventing any cloud of

condensed aqueous vapor. At first no extraordinary appearance was visible, but soon the familiar dark clouds denoting the absence of illuminated dust appeared. He contended that this showed the history of the air in the lungs as clearly as if his skin and breastbone were transparent. The air which entered the lungs at the end of taking breath, being also the first to leave them on expiration, had not had time to deposit its dirt; but the air which entered the lungs first, and left them at the end of the expiration, having deposited its dust at the bottom of the lungs, showed its freedom from floating particles by its smoke-like track across the beam. Again, he filled his lungs with air filtered through cotton wool, and, on expiration, the dark clouds were seen from beginning to end. This proves that a filter of cotton wool will exclude these particles, as might also be seen by filling the nozzle of a common bellows with lightly packed cotton wool, and directing the air across a beam of light. Instinctively acting on this principle, a medical man, on entering an infected atmosphere, places his silk handkerchief over his mouth and nostrils; and, taking this hint, Dr. Bence Jones had tried the above experiment, substituting silk for cotton wool, and had obtained substantially the same result, though in a less perfect degree. In conclusion, the learned professor recommended the use of a respirator of cotton wool as a means of giving pure air to the lungs to all who are likely to be breathing germ-laden atmospheres; and at the present time, when London was full of scarlatina, he would recommend these respirators as the most efficient protection; and, armed by one of these, he declared his perfect willingness to enter any atmosphere, however infected it might be by scarlatina or other diseases.

ART. 7.—*On the Differential Characters of Contagion and Infection.*

By M. MOURA.

(*Communicated to the Académie des Sciences.*)

1. The agents of infection, which are also those of epidemics, exist in a volatile or gaseous form, whilst those of contagion are in a solid or liquid state.

2. The pulmonary surface is the sole way through which the infectious agents are introduced into the organism—gaseous absorption by the skin being *nil* or insignificant; the contagious agents penetrate into the organism only after their application to the skin and mucous membrane whether intact or denuded; never by the respiratory processes.

3. The action of the agents of infection upon the economy is general, that of the agents of contagion is generally local before becoming general.

ART. 8.—*Experimental Researches upon the Production of Œdema.*[1]

By M. RANVIER.

(*Gazette Hebdomadaire*, No. 53, 1869.)

Nearly two centuries ago Lower made the first experiment upon the production of hydropsies by ligature of veins.

The discovery of Aselli had previously made a great impression upon physicians, and it was then considered that hydropsies were caused by the rupture of lymphatic vessels and the pouring out of lymph. The English physiologist attacked this idea, and replaced it by his theory of œdema from blood stasis.

M. Ranvier repeated the second experiment of Lower. The two jugular veins were tied at the lower part of the neck in a dog and a rabbit. These animals presented neither lachrymation, nor salivation, nor œdema. A ligature was then placed around the femoral vein of a dog immediately below the aural ring. No œdema followed either on the day of the operation or afterwards. These results agree with those observed by Hodgson in man. A ligature was

---

[1] Presented to the Académie des Sciences by M. Claude Bernard.

then placed around the inferior vena cava. No œdema was produced. M. Ranvier then thought of bringing about hydropsy by paralyzing the vaso-motor nerves. In order to attain this end, he profited by the knowledge of the distribution of the vaso-motor nerves gained by M. Claude Bernard's discovery. The sciatic nerve was divided on one side of a dog whose vena cava had been previously ligatured. The experiment was followed by considerable œdema on the side of the divided nerve, whilst the other lower limb remained normal. This experiment was repeated three times, and on each occasion with similar phenomena.

M. Ranvier thinks that it may be concluded that in the dog deligation of veins does not produce œdema; but that after venous obliteration hydropsy may be produced by section of vaso-motor nerves. The same results probably occur in man, and thence one may comprehend what importance these experiments will possess if they be applied to the clinical study of hydropsies.

ART. 9.—*On the Influence of Morbid Changes in the Blood on the Variations in the Temperature of the Human Body.*[1]

By M. ANDRAL.

(*Gazette Hebdomadaire*, No. 51, 1869.)

The facts which are about to be detailed show that diminution, even when very considerable, of the proportion of blood corpuscles, does not cause the temperature to descend below the inferior limit of the physiological condition; sometimes, indeed, it is seen to approach this inferior limit, but at others is raised to the superior limit, and even on some occasions exceeds the latter. A female weakened by profuse hemorrhage dependent upon uterine cancer, presented no more than twenty-one parts of corpuscles: in this patient the temperature was maintained at 37° (centigrade). A man who had become markedly anæmic in consequence of a prolonged mercurial treatment had not a greater proportion of blood corpuscles than eighty-seven; his temperature was 36°.7. In a case of saturnine cachexia where the proportion of corpuscles was not higher than eighty-three, the temperature was elevated to 38°. A scorbutic subject the proportion of whose blood corpuscles was reduced to forty-four, had a temperature of no less than 38°.

In chlorosis the same thing occurs, and whatever be the diminution undergone by the corpuscles, the temperature in this, as in other forms of anæmia, is not lowered beyond the physiological condition; most frequently it maintains itself at the highest limit of this condition, and at times exceeds this. A chlorotic patient, in whom the corpuscles had undergone such a diminution that there were not more than thirty-eight parts of corpuscles to one thousand parts of blood, preserved a temperature of 37°.9.

From tables of twenty cases of chlorosis the minimum of the temperature was found to be 37°; this was met with in two cases only. On three occasions the temperature was as high as 37°.5. In fifteen other cases it varied between 37°.6 and 38°.4, without the manifestation in any of these of the existence of an intercurrent inflammatory lesion to explain the elevated point.

These facts prove, from a physiological point of view, that the red corpuscles of the blood may vary much in quantity without the animal heat becoming modified; and from a pathological point of view, that these maxima of normal temperature, and even the commencements of morbid temperature in a certain number of chlorotic females, may give rise to those disagreeable sensations of heat of a febrile character of which many of these subjects complain, and which justify up to a certain point the expression, *fever of chlorotics*, employed by some nosologists.

---

[1] Communicated to the Académie des Sciences.

ART. 10.—*Anosmia: Cases illustrating the Physiology and Pathology of the Sense of Smell.*[1]

By WILLIAM OGLE, M.D., F.R.C.P.

(*British Medical Journal*, Feb. 12.)

This paper began with an account of three cases which had fallen under the author's observation, in which total loss of smell was produced by a blow on the head. The author attributed the anosmia to rupture of the olfactory nerves, and pointed out how these nerves were especially liable to injury from blows on the occiput, which was the part struck in each case. Each patient complained not only of loss of smell, but also of loss of taste. True taste, however, was really unimpaired; what was lost was the power of recognizing "flavors," which are sensations compounded of smell and taste. These cases afforded an opportunity of drawing a clear line between taste and smell, and showed that taste is limited to the perception of acid, salt, sweet, and bitter. These simple tastes compounded with smells form "flavors." Various cases were then considered which seemed in contradiction with this opinion—cases, namely, in which smell was apparently lost, and yet the perception of flavors remained. These cases were explained, and the contradiction was shown to be only apparent. A second group of cases followed, in which anosmia resulted from lesion of the nerve-centres. It was shown that anosmia was a frequent accompaniment of aphasia, and it was argued that the explanation of this is to be found in the proximity of the so-called external root of the olfactory nerve to the part of the brain usually affected in aphasia, a proximity which rendered the two parts very liable to be involved in one common lesion. The relative importance of the external and of the other roots of the olfactory bulb were considered, and it was held that the latter had little, if anything, to do in the perception of olfactory sensations. Lastly, a case of anosmia, recorded many years ago by Dr. Hutchinson, was discussed at length. A negro began, in his twelfth year, to lose his color, and, in course of time, became perfectly white. The loss of color was accompanied by loss of the sense of smell, almost, if not quite complete. This seemed to have been hitherto considered a fortuitous coincidence. The author argued that such was in the highest degree improbable, and accounted for the anosmia by the destruction of the pigment of the olfactory region. Numerous arguments were used to show that this pigment plays an important part in olfaction, and that the keenness of this sense in man and mammals depends, in great part, on the intensity and extent of nasal pigmentation. Reasons were also adduced for believing that pigment is of use in the reception of auditory impressions, so that there would be a certain similarity in this respect between the three main organs of special sense, the eye, the ear, and the nose. Finally, an hypothesis was advanced as to the manner in which the pigment operates, and especially as to the manner in which it operates in olfaction.

Dr. Althaus complimented the author of the paper for the information which he had given on a subject regarding which little was known. Patients did not generally consult medical men on account of anosmia; hence the defect was in most cases discovered by accident. Anosmia was well known to be a not unfrequent consequent of injuries of the head; but he could not assent to Dr. Ogle's theory that it was produced by injury of the olfactory nerves. He thought that it rather arose from rupture of bloodvessels and pressure on the olfactory nerves by the effused blood. He had observed in some cases, but not always, a combination of anosmia with aphonia. Dr. Ogle had not alluded to a case related by M. Claude Bernard of Paris, in which the olfactory nerves were found to be absent in a young woman. She was said to have had taste perfect, and to have been able to perceive the smell of flowers and of stale

[1] Abstract of a Paper read at a meeting of the Royal Medical and Chirurgical Society, Jan. 25.

tobacco. In a case under his (Dr. Althaus's) care, the patient liked highly flavored Moselle. How was this to be explained by Dr. Ogle's view as to the connection of taste and smell? He had seen anosmia associated with epilepsy; one form of the epileptic aura was a disagreeable smell, sometimes preceding the attack by several days.

Dr. Broadbent had seen some cases of loss of smell which confirmed Dr. Ogle's remarks. In one case, after a fall from a horse, there was apparent fracture of the ethmoid bone, with loss of smell. In a second case, the patient was thrown on his back while riding: he remained unconscious for some time, and lost the power of smell. Taste was limited also, as in Dr. Ogle's cases. He had under his care a woman who had epileptiform attacks which commenced on the left side. After one or two attacks, she rapidly lost sight: and, four months ago, she lost smell and taste. He thought that in Claude Bernard's case an inference as to smell had been drawn from the fact that the woman was fond of flowers. He could not agree with Dr. Ogle as to rupture of the olfactory nerves; nor as to the importance of the external root of the olfactory nerve. The middle and internal roots were, he thought, of greater importance.

Dr. Webster said that affections of the sense of smell were very common in insanity; he thought that the disorder was real and not merely imaginary. Was there any relation between the whitening of animals in winter and a change in the power of smell?

Dr. Leared would like to have some information on cases where smell and taste were functionally disturbed without any history of injury. In a case of the kind under his care, he had, for want of a better explanation, assumed the existence of "concealed gout." He had lately under treatment a case of epilepsy, in which the attacks were preceded by an agreeable smell resembling that of peach-blossoms.

Mr. R. B. Carter knew a gentleman who had lost smell and taste, but who derived some pleasure from putrescent meat. He had also an increased power of using alcoholic drinks without becoming intoxicated.

Mr. Brooke said that Dr. Ogle's paper conveyed the idea that the universal medium of communication between external objects and the organs of sense was vibratory motion; and this was in accordance with what he had himself advanced in his work on the *Elements of Physics*.

Mr. Gascoyen had seen two additional cases of adhesion of the palate. In one, the patient desired an operation on account of the loss of smell. He had not consented to the operation. In his cases there was a small opening, and he had advised the patients to wait, which they had done with decided advantage; the thickening had subsided, and the opening had become larger. In another case a lady had syphilis twenty years ago. About twelve years ago she lost the bones of the nose, including the turbinated bones. She had neither taste nor smell; objects could be rubbed on the hard palate without producing taste.

Mr. Savory remarked, as to the effects of poisonous herbs on animals of different colors, that it was said that they all ate them, but were differently affected. Again, there were certain idiosyncrasies irrespective of color. Dr. Ogle explained the absence of smell in some cases by the shutting off of the current of air; but closure of the anterior nostrils prevented taste also. If the olfactory bulb were a true ganglion, injury of its roots could not affect the sense of smell.

Dr. Ogle replied to the remarks of the various speakers, and the meeting adjourned.

Art. 11.—*On Loss of Smell.*

By Dr. Notta.

(*Archives Générales de Médecine*, Avril, 1870.)

In this contribution are collected twenty-four cases of anosmia, or loss of smell. Dr. Notta concludes thus:—

"The causes of this affection are very diverse:—

"It may be congenital, and due to the absence of olfactory nerves.

"In certain cases it is but a symptom of some more serious affection, which

by its situation has determined the destruction, compression, or alteration of the nerves of the first pair (cerebral tumor, exostosis, caries of the frontal bone, &c.).

"It may be the consequence of atrophy of the olfactory nerves.

"In cases where anosmia constitutes by itself the whole malady, it is proposed to call it essential, as it comes on without any appreciable cause.

"It has been noticed to manifest itself after falls upon the head, whether complicated or not with fracture of the cranium.

"It has been sometimes noticed after coryza, whether more or less prolonged or complicated with influenza; sometimes again after repeated attacks of coryza.

"Finally, for the sake of giving as complete a list as possible, Dr. Notta mentions causes which are called by him external, because they are independent of the condition of the olfactory nerves, and because, notwithstanding the integrity of these structures, they may induce a more or less complete loss of smell—these are, absence of the nose, contraction of the nasal fossæ, polypi of the nose.

"Loss of smell manifests itself in different ways, according to the causes by which it is produced. Sometimes, as in atrophy of the olfactory nerves, or after repeated attacks of coryza, it will come on gradually, slowly, and take several years for its production; at other times, as after an injury, or, as in the case observed by Dr. Graves, it manifests itself suddenly; occasionally, as after coryza, anosmia becomes permanent after several temporary attacks.

"It is taught by physiologists," Dr. Notta states, "that certain gustatory properties of certain bodies may be perceived independently of the sense of smell—these bodies being sugar, salts, acids, sweets, bitters: others, on the contrary, require the complete integrity of the apparatus of smell—such as savories, and solid and fluid food; and the very simple experiment is known, which consists in taking different meats or wines by closing the eyes and contracting the nose—an experiment by the aid of which it is easy to verify the exactitude of these physiological notions. Though many of the cases collected by myself confirm these data, there are still others, and these more numerous than might be imagined, which constitute an exception to this law, and in which the taste of savories was preserved, although smell had been completely abolished. I make no attempt to explain this physiological anomaly, but having observed it, I think it my duty to make it known, and to show by another instance that pathological facts do not always give the same results as experiments.

"The duration of anosmia varies according to the cause which has produced it. Thus, when the olfactory nerves have been destroyed by a tumor, or have become atrophied, smell is inevitably abolished, without any hope of return; but when the case is one of anosmia, from an injury or after coryza, although smell may often be lost forever, numerous instances have been recorded in which the olfactory functions have reappeared after a lapse of time, which has varied from three weeks to seven months—a result of some importance to remember, as it permits one to hope for the re-establishment of the function, so long as it has not been abolished for more than one year.

"Loss of smell has not, it is true, any serious consequences upon the condition of general health; nevertheless it is a disagreeable infirmity, particularly on account of the disturbance it most generally occasions in the sense of taste. Still, although some patients are painfully affected by the loss of this sense, there are many who take no heed of it, and by accident merely mention it to their medical attendant. There is no great necessity for regretting this, as the therapeutics of this infirmity are absolutely null. Nothing on this subject is to be found in authors. I have tried veratria and sternutatory powders with the view of stimulating the nervous ramifications in the pituitary membrane; but these attempts have been completely fruitless, and in cases where patients recovered the sense of olfaction, the cure had to be attributed to the unaided efforts of nature."

ART. 12.—*Select Clinical Cases, including Cases of Labio-glosso-Laryngeal Paralysis, Exophthalmic Goître, Arterial Pyæmia, General Chronic Arteritis, and Saturnine Gout.*

By SAMUEL WILKS, M.D., F.R.C.P.

(*Guy's Hospital Reports*, vol. xv.; and *British Medical Journal*, March 19.)

There are five cases of Labio-glosso Laryngeal Paralysis—four males and one female. The first was a leather-dresser, aged forty-six, and his case was complicated with muscular atrophy; but, as the post-mortem examination is given, and is strongly confirmatory of the views of Professor Trousseau and Dr. Lockhart Clarke, it is, we think, deserving of brief notice. This patient had suffered from acute rheumatism five years before, but in the interval his general health had been good. In June, 1867, he was attacked with sore throat and slight dysphagia. He was admitted as an in-patient of Guy's Hospital in November of the same year. He then had dribbling of saliva; the lower part of his face was expressionless, the buccinators paralyzed, and the soft palate partially so. He had difficulty in swallowing, and loss of power in the tongue. He had almost lost the power of eating, swallowing, coughing, and expectoration; and his speech was very indistinct. His muscles—especially the extensors—were atrophied and partially paralyzed, especially on the left side, and the interossei almost completely so. With dieting, quinine, and galvanism he improved slightly; but in December, after a fall, he became worse, and died on the 28th of that month. The post-mortem appearances were as follows: There was obvious atrophy of the roots of the hypoglossal nerves, of the inner roots of the spinal accessory, and also, very markedly, of the whole of the anterior roots of the spinal nerves, especially the cervical. The anterior half of the white matter of the cord was hardened and atrophied, and the gray matter was reddened and enlarged. In the fourth ventricle there was very obvious red-gray change of the calamus scriptorius, from the nib upwards and outwards for half an inch. The lining membrane and its choroid plexus were of deeper color than usual. Of the other cases we have only clinical reports. In one, the left vocal cord was seen to be quite paralyzed, the right partially so.

There are four cases of Exophthalmic Goître (Begbie's, Basedows', Graves's, or Stokes', disease). One of these is illustrated by a striking portrait, from a photograph. The thyroid gland, which was greatly enlarged, was found, at the autopsy, to extend, by its left lobe, "three-fourths of an inch below the upper edge of the sternum into the chest;" it bent the trachea to the right, touching the left side of the œsophagus for a space of three inches, and compressing the thoracic duct against the spine (the man was greatly emaciated). The cervical sympathetic was imbedded in, and adherent to, fibrous tissue. Its middle ganglia were absent; and the others, as well as the thoracic and abdominal, were very white, and covered with a dense fibrous tissue, which prevented the gray matter from being seen. With the exception of increase of fibrous tissue, Dr. Moxon states that the ganglia presented no very remarkable changes when viewed with a one-fifth inch objective. The thyroid arteries were large; but the heart, excepting slight muscular degeneration, was fairly normal, and the eyeballs much less prominent than in life.

By Arterial Pyæmia, Dr. Wilks means changes of an embolic nature produced in peripheral organs (lungs, liver, spleen, kidneys, &c.), by fibrinous masses carried into the circulation from the heart; he suggests the careful examination of the last-named organ by the stethoscope, in cases of pyæmic symptoms without obvious cause.

Under the head of General Chronic Arteritis, Dr. Wilks details the case of a man, aged thirty-six, who had no radial pulse on the right side, a feeble one on the left—(his fingers used to "go dead.") There was no pulsation in the femorals, and but little in the carotids. His feet swelled, and he had intense pain in the limbs. He lingered on in this state, with horrible sufferings, from

September, 1868, till February, 1869, when he died. The terminations of the right brachial and the whole ulnar (? radial) artery were occluded, as were the right common, external, and internal iliac arteries, and both femorals. There were blocks in the left lung, spleen, and left kidney.

Dr. Wilks discusses the question of the Connection of Gout with Lead-poisoning, expressing himself cautiously as to their being cause and effect, and giving details of three cases (in two of which there were post-mortem examinations) in which plumbism and gout were combined. Those who are familiar with the difficulties of arriving at the truth of statements as to personal habits will not attach too much importance to the reporter's description of the patients as being of "steady habits," and will therefore not be surprised at the caution with which Dr. Wilks expresses himself; for, since lead-poisoning is common in countries where malt liquors are not national beverages, and gout is uncommon in their inhabitants, it is clear that the question is still *sub judice*.

Art. 13.—*Clinical Notes.*

By S. O. Habershon, M.D.

(*Guy's Hospital Reports*, vol. xv.; and *British Medical Journal*, March 19.)

These include cases of Diaphragmatic Pleurisy, of Hæmatemesis, and Spinal Concussion, and Remarks on the Internal Use of Carbolic Acid; and, although appearing with this modest heading, are of great practical interest. The author considers that we are warranted in diagnosing diaphragmatic pleurisy from the following peculiarities: The suddenness and intensity of the pain ("the pain is agonizing"); the severity of the dyspnœa; the absence of physical signs, as long as the costal pleura remains free; the presence of pain in the shoulder; the inability of the patient to lie on the affected side; irritability of the stomach if left-sided, and the occurrence of jaundice or other so-called hepatic symptoms when right-sided; and its usual speedy termination by resolution. He points out several sources of fallacy, as herpes zoster, local tumors, spinal causes, &c.; and the cases show another feature of interest, to which he also alludes—viz., that the temperature, when uncomplicated with pneumonia, &c., is generally low, 99°.7 and 100° being the highest noted. Dr. Edwin Long Fox (*Medical Times and Gazette* and *St. George's Hospital Reports*) and Dr. Reginald Thompson both agree that in pericarditis the temperature is but little affected; and the same remark applies to many cases of meningitis, so that we seem to be very near enunciating a general law of distinction between inflammation of mucous and serous membranes, that in the latter there is little rise of temperature.

The notes on hæmatemesis are very suggestive, and will not bear further condensation. Those on hæmatemesis from uterine and ovarian irritation are especially deserving of careful study; for many cases of this kind are, we feel sure, never referred to their proper cause. Dr. Habershon particularly recommends the internal use of carbolic acid in gastric and colonic fermentative dyspepsia, but recommends avoiding it when there is great irritability of mucous membranes. In one case, it was probable that salivation was induced by it. It may be given in pills, if combined with powdered tragacanth, extract of henbane, compound ipecacuanha powder, &c. His cases of concussion to the head and spine are of extreme interest in these days of railway accidents. In both, the severe symptoms came on a considerable time after the accident; and, in the fatal one, the blow on the head (from a hammer falling on the parietal bone) was followed by convulsions *four years* after, with hemiplegia; and, at the post-mortem examination, there was a limited collection of pus (size of a threepenny piece) on or under the membrane, "at the upper edge of the fissure of Sylvius." The gray matter of the right half of the brain was wasted; and the right half of the pons and anterior half of the right corpus striatum were softened.

Art. 14.—*On a New Method of Treating Gout.*

By Dr. Fontaine.

(*Gazette Hebdomadaire*, No. 4, 1870.)

The following is a report on Dr. Fontaine's paper from a Commission appointed by the Académie de Médecine:—

In the first part of his work the author occupies himself especially with the researches of English physicians from Sydenham to Garrod. Dr. Fontaine adopts that pathology of gout which makes this disease depend upon an excess of lithate of soda in the blood.

Dr. Fontaine recognizes the great efficacy of colchicum in the treatment of the early stage of gout; he gives the preference to the tincture of the seeds. He admits that the administration of colchicum ought to be frequently interrupted, but he pushes prudence to the length of stating that one ought not to prolong its use beyond the second or third day. From the results of experiments made upon dogs, he has no doubt upon this point. Moreover, he does not administer colchicum by the stomach, for the purpose of preserving the healthy condition of this organ. With the permission of the patient colchicum is administered by M. Fontaine in an enema. By this method he thinks a too violent effect of the medicinal agent is avoided. The effect of the injection is more tardy and more moderate; it is not generally felt before the fifteenth or twentieth hour after administration.

In order to combat the diathesis, or rather, according to the new ideas adopted by the author, to hinder the formation and to favor the destruction or elimination of uric acid from the economy, he has recourse to three medicinal agents—arseniate of potash, chlorate of potash, benzoate of lime.

The arseniate of potash is administered continuously, but in very small doses; to this arsenical salt is attributed a restorative action, the blood corpuscles are renewed, and the functions of combustion regulated.

The chlorate of potash is recommended for the purpose of oxydizing the uric acid. M. Fontaine admits, with M. Gubler, that a portion of this salt may be decomposed in the economy. He states that he has taken for several days as much as five grammes of chlorate of potash daily, and made out that a certain quantity of this salt disappeared at the same time as the normal proportion of chlorates of the urine was increased.

M. Fontaine prescribes benzoate of lime, not with the view of converting the urate into the more soluble hippurate of soda, but to bring to bear its solvent action upon the urinary compounds, and to exert its slightly diuretic action.

Art. 15.—*On the Prevention and Treatment of Scarlet Fever.*

By Charles F. Routh, M.D., M.R.C.P.

(*British Medical Journal*, January 22.)

At a meeting of the Medical Society of London, held January 3d, Dr. Routh read a paper on some points connected with the Prevention and Treatment of Scarlet Fever. He first touched on its great fatality: from 1850 to 1854, 10,504 died from it in London, out of 74,895 deaths from all zymotic diseases. From the years 1853 to 1864, the deaths were in England, from scarlet fever, 214,521—*i.e.*, 4.3 per cent. to all deaths from specified causes, and 23.5 per cent. to all deaths from zymotic diseases. This was, however, below the mark, as cases of scarlet fever were often returned as cases of malignant sore throat and diphtheria, whereas typhoid cases were exaggerated. For the years 1848–1862, the deaths from scarlatina and typhus, to 1000 deaths from all zymotic diseases, were respectively 171 and 181. The poison of scarlet fever was second only in virulence to smallpox. Furniture infected with scarlet fever had conveyed the disease six months after use, and houses at longer periods than this

after occupation. The rules for prevention, prepared by the medical officers of health, were excellent; but their compulsory observation (except in fearful epidemics) would be incompatible with the liberties of an Englishman. Isolation of infected persons was the most operative for safety. This he showed from a table of the Registrar-General, for the years 1851–1861, compiled from 631 districts. Where the proximity of person to person was 402 metres, the deaths, to a thousand living, were 14; where it was only 23 metres, the deaths were 28 to 33. In some very unhealthy places and feverish districts, such as Maldon in Essex, Wolverhampton, Bridport, &c., the mortality was beyond what proximity of persons could explain, and was clearly due to local causes. Dr. Routh then referred to the nature of the *materies morbi*. Whether a ferment, or an oxyacid, it was completely destroyed by antiseptics and by agents which checked fermentation, such as sulphuric acid, chlorine, and carbolic acid. Two chief sources of its propagation were the journeymen tailors and tailoresses, who put upon the beds of their sick with fever the garments, which, so infected, were carried to the houses of their owners, and second-hand clothes shops. Public workshops and frequent fumigations of old clothes shops were the remedies indicated. Dr. Routh then considered the tendencies to death which had to be counteracted. These were, first, shock, in virulent epidemics, and at their beginnings, requiring stimulants, &c.; second, tardiness of the eruptive stage, and death by the specific poisons, requiring hot-air baths, stimulants, but especially an emetic at the outset; thirdly, death by violence of the fever. Here cold affusions to the skin, cold spongings, rarely bleeding, and inunctions were indicated. The *modus operandi* was fully explained, and the addition of carbolic acid in cold sponging and inunction was especially recommended. Fourthly, death from putrid sore throat killed in two ways—(*a*) by a poisonous atmosphere inspired, (*b*) by poison absorbed through the subjacent tissue. Carbolic acid and chlorine, or tannin, he believed, were preferable in such cases to caustics, because the local sore might be as effectively destroyed, and a disinfecting atmosphere in addition created. Lastly, death was produced by early uræmic poisoning. The treatment of the fever generally should be either solvent, to dissolve excess of fibrine, as by ammonia or acetic acid, or antiseptic. Acetic acid might be regarded also as antiseptic; but he was in the habit of giving citrate of ammonia, in an effervescing state, with carbolic acid internally.

Art. 16.—*Treatment of Scarlet Fever.*

By Sir William Jenner, Bart., M.D., F.R.S., Physician in Ordinary to H.M. the Queen.

(*The Lancet*, January 8.)

Sir William Jenner's experience tells him that we have no remedy for the general disease.

"We can only act upon the broadest general principles of calming the patient when excited; of stimulating him, to keep his heart beating, when he is exceedingly weak; of cooling the surface when the heat is excessive. Give him pure, fresh air to breathe. It is a disease that runs a definite course, and if you can keep the sufferers alive for a certain time they get well from that general disease which killed some of our patients. So you watch for the symptoms which threaten death, and endeavor to avert them. The *very* grave cases are hopeless from the first. For the mild cases little treatment is required. A cool room, light clothes, unstimulating diet, a mild aperient, a little chlorate of potash, which seems to allay the irritation or inflammation of the throat, and that is all you need do. Some give a little diluted mineral acid; sulphuric acid was all that used to be employed at the Fever Hospital when I was there. I think myself that the best is the chlorate of potash drink. I put a drachm of the salt into a pint of barley-water, and let the patient sip it down as he pleases.

"For some of the aggravations of the acute specific process, for some of the throat affections, we may do a great deal, and there we often save life directly; but

for the disease itself, that which is the root of the matter, I repeat, so far as I know, you can do nothing. By the chlorate of potash you may do something towards allying the throat affection; by a mild aperient you may allay a little the febrile disturbance which would be increased by confined bowels; by keeping the room well ventilated you prevent any increase of fever from the room becoming too close, and its air impure. And all the time you must watch the state of the urine, the skin, and the throat. One point I desire to impress on you—namely, the great importance of changing the clothes of the patient, as well as the air of the room. The blankets of the bed should be changed frequently, as well as the body-linen and sheets."

Art. 17.—*On Scarlatina sine Eruptione.*

By C. H. Robinson, L.K.Q.C.P.I., M.R.C.S.I., Demonstrator of Anatomy to the Ledwich School of Medicine, Member of the Surgical Society of Ireland, &c.

(*The Lancet*, February 12.)

"Some months since a gentleman in this city (Dublin), whilst in his office, was asked permission by a messenger of his for leave for a day, in order to bury a child who had died from scarlatina. Two other children of his, it seems, had died a short time previously of the same disease. His request was granted, not only for the time required, but he was directed to remain away for several days longer. Within two days afterwards this gentleman was attacked with sore throat, for which I attended him. In a couple of days the inflammation spread to the right ear; and the worst case of acute otitis I ever saw was the result, not only the mucous membrane of the external auditory meatus being attacked, but also the membrane tympani. After intense pain had been endured—and no one can form an idea of the frightful agony connected with inflammation of the ear who has not been a sufferer from some aural affection,—suppuration took place from the membrana tympani, as was seen by examining the ear with the auroscope. The throat affection only lasted a couple of days; and I shall not refer to it further, as it was of very slight importance. He was treated by blisters, local application of the tincture of iodine, and the ear was well syringed with hot water and soap, glycerine on cotton-wadding being afterwards applied. When suppuration took place, a solution of sulphate of zinc (two grains to the ounce) was used several times daily, the applications after a time being changed to cold instead of hot water, as previously used. Some internal medicine was given, but nothing of much consequence, simply to prevent costiveness and to allay pain when required. This attack of otitis lasted several weeks; and during it all hearing was lost: in the commencement, from the swelling of the mucous membrane of the external ear; afterwards, from the effects of the suppuration. This, however, I am glad to say, was not permanent; but the sense of hearing did not perfectly return for several months.

"Within two or three days from the time this gentleman suffered from sore throat, several members of his family were also attacked with a similar affection. In two it was slight, lasted only three or four days, and merely required confinement to the house and an occasional application of a strong solution of nitrate of silver. In one case, however, it ran a very severe course: here the tonsils were very much swollen, and the uvula œdematous, being double the usual size from infiltration of serum, and resting on the tongue; whilst the soft palate and sides of the pharynx were of an intense scarlet color. Swallowing was almost impossible, and gave great pain. The pulse was very frequent and weak, about 120 on the average during the height of the disorder; and great heat of skin was present. Great Dyspnœa also occurred, generally in paroxysms. These paroxysms of suffocation came on at irregular intervals, generally about two or three times in the night, never in the day; and may have arisen from spasm of the glottis, or, more likely, from an extension of the inflammation to the aryteno-epiglottidean folds of mucous membrane, thereby

causing an œdematous state of the parts, and accounting readily for the difficulty of breathing. Some nights I was called up three or four times, and obliged to swab the parts well with the strongest solution of nitrate of silver I could obtain. The treatment, besides cauterization, included the inhalation of the steam of hot water, and the internal administration of chloride of potash in large doses, with the tincture of the perchloride of iron; whilst large quantities of beef-tea, chicken broth, and other nourishing food, in combination with several glasses (six to eight) of port wine, with a couple of glasses of brandy, were daily administered. I also scarified twice, with a bistoury, the swollen tonsils and œdematous uvula. The tonsils, I may add, at the height of the disorder, were covered with whitish patches, whether consisting of a pseudo-membranous character, or formed by the nitrate of silver causing an albuminate of silver to be deposited, I cannot say.

"This state of things lasted about four days, when the anxiety began to get less, and the symptoms to remit, until at last the patient recovered. But her voice, after convalescence had taken place, was husky and smothered, and, although a good singer, her voice was entirely gone. This loss of her vocal powers continued for several months, until at last the huskiness gradually disappeared; but she did not recover her voice perfectly until nearly six months had elapsed from the time the attack commenced.

"It is my firm belief that these were all cases of that awful malady scarlatina. It is true there was no eruption in any of the four patients, but from the history I have detailed, and from the severe symptoms which took place, as shown in the above hasty account of the affection, I think it will be acknowledged that my conviction is correct; and if so, it proves also that a person who has taken scarlatina sine eruptione may carry the infection to another.

"In all the cases the patients had scarlatina before; but a secondary attack of this affection is not so very uncommon, I myself having had it three times, each time lighter than the preceding attack.

"Cases of scarlatina sine eruptione have been described by several trustworthy observers, so as to place the matter beyond all doubt; amongst the rest by Dr. Graves, of Dublin; also by Professor Trousseau, who styles them cases of *defaced* scarlatina (*scarlatine fruste*), and to whose account of the affection, in his splendid *Clinical Medicine*, I must refer the reader who wishes for more information on this interesting topic."

Art. 18.—*Cold-Water Treatment of Fever.*[1]

By Dr. Drasche.

(*British Medical Journal*, February 19.)

In Section VIII. (*Internal Medicine*), Dr. Drasche of Vienna spoke on Cold-water Treatment of Typhus Abdominalis from observations made in the first division of the Rudolf Hospital in Vienna.

The cold-water treatment of typhoid fever, he said, has only lately gained its first scientific basis by means of the exact examinations of temperature in health and disease. Thermometric observations in typhus show that the surest criterion of the severity of the disease is the degree of heat. As soon as the temperature rises a certain number of degrees, characteristic symptoms appear very regularly, but vanish again as the temperature falls. No typhoid symptom is undoubtedly of so great and constant importance as morbidly high temperature. This consists in a chemical process; in an invisible but appreciable burning of the blood and of all the constituents of the body capable of being oxidized. Too abundant an increase of heat on the one hand, and too deficient a supply of combustible material on the other, can in the course of time only lead to such an attack on the organic constituents of the body that life is inevitably threatened. The most serious cases of typhoid fever owe their

[1] Extract from the Transactions of the German Naturalists and Physicians' Meeting at Innsbruck, September, 1869.

severity to the intensity of this process, the pathology and anatomy of which are not yet fully known. It remains for the future to demonstrate, by means of calorimetric measurements, the rapidity of metamorphosis in the direction indicated.

Cold water, employed systematically, not only lowers the temperature in typhoid fever, but keeps it permanently at a relatively lower degree. By overcoming the excessive oxidation, the most serious attacks of typhoid are deprived of their dangerous aspect; and the disease is often made to take a more favorable course than all the different kinds of treatment hitherto known could effect. All typhoid patients do not, it is true, recover under the most circumspect and careful cold-water treatment; but comparatively more cases are brought to a satisfactory issue by this mode than by any other.

The simplicity of the proceeding is another advantage not to be underrated. Except baths (with or without douches and cold compresses), no other hydrotherapic treatment is requisite. If cold packing be used, the appliances are complete.

After these general remarks, Dr. Drasche states his own observations.

The cases treated by him exclusively with cold water in the Rudolf Stiftung, from January to September, 1869, amounted to forty, three of which came under the head of typhus. Thirty-six patients recovered, four died. The mortality was thus 10 per cent. In 1868, in the same hospital, but without cold-water treatment, the mortality was 16.5 per cent. Liebermeister, he added, for comparison, had 9.7 per cent. deaths with his cold-water treatment; Jürgensen, 3 per cent.; and Brant lost no case at all.[1]

In consideration of the diagnosis, it must be stated that in all the cases, before any treatment took place, temperature had repeatedly risen above 39 deg. Celsius. It was generally taken in the axilla four to twelve times daily. In some cases, the thermometric annotations reached 400. In the rectum, it was measured on two patients only, who greatly objected to it. The maximum of fever-heat observed was 41.5 deg. centigrade (106.7 Fah.) The thermometer rose repeatedly above 41 deg. centigrade, in two cases terminating fatally, and in three other patients who recovered. The maximum temperature was not constantly reached in the afternoon and evening.

The longest period from the beginning of the disease, before the patient entered the hospital, was twenty days; the shortest, three; and average, eight. The mean time at which convalescence set in was the seventeenth day of the hydrotherapic treatment. In the greater number of cases it was, however, observed to begin before the tenth day of treatment.

The hydrotherapic treatment consisted chiefly in the employment of full and half baths, of 9 to 30 deg. centigrade, once or twice to eight times daily. Especially in cases where the bronchial complications were severe, or where the brain was affected, cold affusion of 60 deg. centigrade added. Packing in wet sheets, up to 8 deg. centigrade, was less often resorted to. Ice-bags, as low as 4 deg. centigrade, on the head, chest, and abdomen—especially the latter, where there was much diarrhœa—were frequently applied. Generally, a rising of the temperature to 39.5 deg. centigrade was considered as an indication for hydrotherapic treatment. Baths, however, were given if the temperature had not reached that point in some cases, when the patients lost their consciousness, or the tongue became hard and dry.

The diet consisted of milk and broth, and extract of meat given in the form of soups. Some patients took the extract with apparent appetite, and could hardly get enough of it.

The post-mortem examination in the four fatal cases showed hypostatic congestion of the lungs, and only very isolated patches in the intestines. In one case, Bright's disease, of long standing, was evidently one of the causes of death. The second patient was an inveterate drunkard, and perforation of the intestines took place. In the third case, there were already bed-sores over the

[1] Drasche's statement about Liebermeister's percentage is incorrect. The Hospital Report of Bâle, in 1868, shows that, of 189 cases of typhoid fever treated by Liebermeister during that year, only 13 terminated fatally. Liebermeister's percentage is, therefore, 6.9r

coccyx when the hydrotherapic treatment was commenced. In the last case, the patient died of general peritonitis, proceeding from the spleen, which was found softened and partially decomposed.

In order to examine the state of the arteries during hydrotherapic treatment, pulse-curves were taken before and after the baths, by means of the sphygmograph, at various times in the day, and with varying temperatures. The typhus-pulse preserves its dicrotic character, even immediately after energetic refrigeration by means of baths. It may be strongly marked, whether the pulse be frequent or the contrary.

In order to prove the action of the hydrotherapic treatment—especially of the cold douches—on typhoid bronchitis, attempts were made to determine with the spirometer the vital capacity of the majority of patients. It sank even within a few days; in some cases so much so, that differences of 1000 to 1500 cubic centimetres were observed. Cold douches were regularly followed, in the first stage of the disease, by an increase of the amount of expiration, amounting to 300 cubic centimetres. At a later period, on the contrary, the vital capacity sank so low after baths and douches that the patient, immediately after the refrigeration, showed a difference of as much as 250 cubic centimetres. In the fatal cases with hypostatic congestion of the lungs, the vital capacity sank at most to half its former amount.

The condition of the weight of the body under hydrotherapic treatment is, in some cases, quite peculiar. One patient lost within eighteen days, up to the setting in of convalescence, 11 pounds 4 ounces, or 10 per cent. of his whole weight. In the first six days of recovery, the loss in weight was six per cent., which, with regard to the shorter period, was comparatively more. The maximum of the loss of bodily weight was, in persons recovering, 24 pounds 7 ounces, or 19 per cent.; in persons dying, 10 pounds, or 17 per cent.

The examinations of the quantitative proportion of urea by the *Titrir method*, showed a very striking connection between it and the production of warmth. On days when from four to six baths of a low temperature were taken, the quantity of urea was 1 or 2 per cent. less than the previous days, when either no baths had been taken or when their temperature had not been lower than 26 or 28 deg. centigrade. When the temperature was higher than 39 deg. centigrade in the axilla, the quantity of urea was 3, 4, or even 5 per cent.; it diminished to 2 and 1 per cent. with a decided increase of the bodily temperature. Often no other symptom than the quantity of urea was required to indicate an aggravation of the disease. In some very severe cases, the amount of urea remained unchanged for three or four days after the beginning of convalescence, even after the use of more richly nitrogeneous food.

The proportion of chlorides was generally regular. In high temperatures, they were present to the amount only of some tenths per cent.; but they increased to nearly one per cent. when the bodily warmth was energetically lowered. When the temperature did not surpass 38 deg. cent. in the course of a whole day, chlorides were present to the entire amount of one per cent.

In the majority of typhus cases under the water-treatment, there was more or less albumen found in the urine when the patients were first admitted. It generally coincided with a high temperature (39.6 to 40 deg. cent.) At the same time, the presence of urea was considerable—5 or 6 per cent. Chlorides seemed to be greatly diminished, fluctuating between 0.2 and 0.5 per cent. When, in those cases, the temperature sank within a few days, in consequence of the energetic refrigeration, albumen could only be found in slight traces; and on the fourth or fifth it generally had altogether disappeared from the urine.

There was no constant proportion between the height of temperature and the quantity of urine. Whereas small quantities only, not exceeding 7½ ounces, were produced at a time when the temperature was 40 deg. cent. or above, great or small quantities appeared alternately with 40 or 39 deg. cent. At this stage of temperature happened the greatest quantitative differences, varying from 10½ ounces to 65 ounces. Between 39 and 38 deg. cent., the fluctuations were less extreme. At and under 38 deg. cent., neither very great nor very small quantities were observed.

Art. 19.—*On the Use of the Thermometer in Typhoid Fever.*[1]

By M. Constantine Paul.

(*Gazette Hebdomadaire*, No. 5, 1870.)

1. The thermometer indicates in a precise manner the progress of typhoid fever.

2. The type of typhoid fever is continued during the *période d'état*, and persists when the disease is about to terminate in death. When the patient recovers it does not end by a crisis, but rather by a progressive decline.

3. The type of decline is the remittent type. The remittence may commence by manifesting itself only every second day, but then it very soon becomes quotidian, which is the usual course.

4. All the recrudescences of the fever cannot be designated relapses.

5. There exists a primary form of simple and spontaneous recrudescence characterized by exacerbations affecting the tertian type. The sulphate of quinine may be given with advantage in cases of this kind.

6. In another form of recrudescence the exacerbations are quotidian; this lasts from one to four days, and is most frequently caused by excess in diet, or by fatigue occasioned through the visits of parents or friends.

7. When the same causes are reproduced they are followed by similar exacerbations, and may give to the second period of the fever a longer duration.

8. If complications, especially phlegmasiæ, occur, a recrudescence of the fever is observed which affects the continued type.

9. These various recrudescences are not relapses, for this word should be reserved for the reappearance of an anterior period of the fever or of two periods.

10. There may be *immediate relapses* of the fever, but in order to have a relapse it is necessary that an entire fresh evolution should take place, and a second and fresh thermic curve during the period of the fastigium.

11. The curve of the stage of decline is characteristic. The tracing of acute miliary tuberculosis, of acute polyarticular rheumatism, or of acute albuminuria, can alone be confounded with those of the decline of typhoid fever.

Art. 20.—*Relapsing Fever.*

By Charles Murchison, M.D., F.R.S., Physician to the Middlesex Hospital, and Lecturer on the Practice of Medicine.

(*The Lancet*, January 22.)

The prominent symptoms of relapsing fever are: pyrexia, setting in suddenly, with rigors or chilliness; great frequency of pulse and heat of skin, but no specific eruption; severe headache and general pains, but mind usually clear; pain, tenderness, and enlargement of the liver and spleen; rapid breathing; vomiting more or less urgent, and frequently slight jaundice and constipation: an abrupt cessation of these symptoms about the fifth or seventh day, with copious perspiration; but after a complete apyretic interval, during which the pulse may be unusually slow, and the patient may have a good appetite and be up and walking about, an abrupt relapse on or about the fourteenth day from the first commencement, or sometimes later, running a similar course to that of the first attack, but terminating on or about the third or fourth day of the relapse. The disease is very rarely fatal, except in persons whose constitutions are weakened by previous illness; but it is a much more painful malady than typhus, which so commonly ends in death. Such is the clinical history of relapsing fever in a typical case.

---

[1] Communicated to the Société Médicale des Hôpitaux.

ART. 21.—*On the Morphological Process in Inflammation.*

By Professor BILLROTH.

(*Medizinische Jahrbücher*, 1869; *Gazette Hebdomadaire*, No. 50, 1869.)

Billroth discusses inflammation as existing in the connective and epithelial tissues: 1. *Inflammation in the Connective Tissues.* In order to apply to the phenomena of inflammation in the higher animals and in man the results observed in the frog, and particularly the fact of the issue of white corpuscles from the vessels, with all its consequences, it is necessary to demonstrate that the process is the same in man as it is in the frog. One cannot make direct observation or follow completely the process in the mammalia, but the changes which may be observed in inflamed tissues are in support of the opinion expressed by Billroth that the issue of white corpuscles through the walls of bloodvessels exists both in warm-blooded animals and in the frog. In a preparation of subsynovial adipose tissue extracted from a specimen of subacute arthritis in a tuberculous patient, Billroth found in the immediate neighborhood of the vessels a considerable quantity of young cells, whilst in the remaining portions of the connective tissue they were but sparsely scattered. An analogous phenomenon had been also observed by Billroth during the process of cicatrization; there again the vessels were surrounded by a considerable mass of cells, and, from the period at which his observations were made, he was led to consider these cells as due to formative irritation in the peri-vascular tissues. Billroth also finds arguments in the mode of development of tubercle, carcinoma, sarcoma, but these cannot be insisted upon, as we have no direct proofs.

One of the important peculiarities of inflammation in one of the forms of connective tissue, according to German authorities—viz., the cornea—consists in the fact that the fixed corpuscles of the connective tissue remain unchanged. A like fact is observed in the true connective tissue.

If attention be paid to the tail of a tadpole, the point of which has been cut off, it will be seen that the fixed corpuscles of the connective tissue at the level of the section remain unaltered; one does not see any swelling or nuclear proliferation within these. Billroth observed during one week the cicatricial process in a case of this kind, and never observed any changes in the fixed corpuscles. Likewise in examining with care the above mentioned preparation of inflamed synovial membrane, there was no visible sign of any alterations of the fixed corpuscles of the connective tissue.

It is true that at certain points one may find masses of rounded cells or of protoplasm inclosing several nuclei, but one cannot recognize with certainty that these elements are formed in the corpuscles of the connective tissue.

To resume: the interpretation of these preparations leads rather to the idea of white corpuscles and of embryonic cells occupying certain parts of the tissue than to the idea of proliferation of the corpuscles of the connective tissue.

The question of the origin of pus cells is then considered. If it be admitted that they proceed from the blood, and that they are leucocytes discharged from the vessels, there still remain many points to elucidate. No one can flatter himself that he knows the complete history of leucocytes, or that he has demonstrated how these bodies arise in the blood, in what number they exist, or how long a time they live. It cannot be admitted that man possesses so many white corpuscles or leucocytes as can be found in the products of a suppuration of one week's duration.

With regard to this subject, Billroth has endeavored to determine the total value of the suppuration furnished by a wound in one week.

In a young man, whose elbow had been resected on account of a chronic fungous arthritis, the wound (longitudinal section) was left exposed and the pus collected in a porcelain cup. The quantity of pus in this case was somewhat less than if the ordinary dressings had been applied, because a portion of it desiccated and formed a crust.

A similar experiment was made upon a lad of fifteen years of age, after a

partial resection of the elbow. The maximum daily supply of pus—the experiment being continued for eight days—was three ounces, of which quantity one ounce and three and a half drachms, that is to say, less than one ounce and a half, represented the solid elements of the purulent discharge. One cannot believe that so large a quantity of white corpuscles could be locally engendered during twenty-four hours in the inflamed territory.

As the origin of suppuration cannot be attributed either to cellular proliferation in the connective tissue or the formation of the corpuscles in the vessels of the inflamed parts, it becomes necessary to search further and, quite naturally, in those organs which are associated in the hematopoietic function, that is to say, in the lymphatic glands. In every inflammation there is swelling of the lymphatic ganglions, varying in intensity, but always appreciable on attentive exploration. Microscopical observations in these cases always present proofs of an abundant multiplication of young elements in the interior of lymphatic glands and in the lymphatic sinuses. In these very glands is effected the genesis of leucocytes, the constituent element of pus. Billroth supports this opinion by proofs derived from pathology and experiment.

Again, the exaggeration of the proportion of white blood corpuscles in patients who suffer from abundant suppuration is a fact that has been actually demonstrated by very complete observations. The study of glands inflamed after cutaneous wounds shows that there is in their interiors a proliferation, a multiplication of lymphatic cells which is certainly associated with that condition of leucæmia one observes in patients affected with suppuration. Billroth on this subject relates some experimental researches which give indications for consulting the process of symptomatic adenitis.

The author enters here into detailed arguments based upon microscopic preparations with the view of proving changes in the connective tissue in inflammation and cicatrization. The following is the conclusion at which he arrives:—

The cells which in inflammation are met with in abnormal numbers and arrangement in the tissues are leucocytes. As changes in the fixed corpuscles of the connective tissue cannot be discovered, it must be concluded that all organized tissues—granulations, cicatrices, adhesions—which are met with during the inflammatory processes, have their origin in the white corpuscles of the blood.

2. *Epithelial Suppuration. Inflammation of Glands.*—The production of pus in catarrhal inflammation is evidently due to the formation of proliferating cells in the deepest seated layer of the mucous membrane. The whole question seems to depend upon the exact recognition of these proliferating or mother-cells. Various interpretations have been proposed; they have been considered as representatives of epithelial cells with proliferating nuclei, or, again, as epithelial cells into which leucocytes have been introduced. Volkmann and Stendener have recently upheld this latter opinion, which, however, is but a new form of the opinion formerly held in France by Robin, and which differs only as to the mode of origin of the leucocytes. In fact, whilst Robin and others maintained that leucocytes might spring directly from the interior of epithelial cells, the former authorities admit that at the moment of the formation of young epithelial cells leucocytes are introduced into their interiors.

In other terms the question seems to be this: is there an endogenous generation of cells in the epithelial elements, or is there rather an invasion of the epithelial elements by the leucocytes through the phenomenon known under the name of intra-susception? Unfortunately the solution of these problems cannot readily be obtained; it may, however, be presumed that it will result from new methods of direct study on the development of these elements.

The researches of Billroth on glandular inflammation have led this observer to the conclusion that the production of pus cells does not take place at the expense of the epithelium, but that the pus cells or leucocytes make their appearance in the connective tissue which surrounds the glandular cul-de-sacs.

ART. 22.—*On Tubercular Ulceration of the Mouth and Tongue.*[1]

By M. TRÉLAT.

(*Archives Générales de Médecine*, Janvier, 1870.)

M. Trélat thus resumes several novel points to which he wishes to direct attention :—

1. The ulcers of the mouth, designated by the name of buccal phthisis and tubercular ulcers are, in certain cases at least, produced by the ulceration of true tubercles, a fact which has not been hitherto admitted.

2. Tubercular ulcers of the mouth have always been observed in tuberculous individuals; but their appearance may precede that of the pulmonary phthisis, although the inverse order is the more frequent occurrence.

3. The diagnosis of these ulcers may be established with certainty at all periods of the disease.

ART. 23.—*On the Propagation of Cancer and Tubercle to the Surface of the Pleural Serous Membrane, and especially to the Diaphragmatic Pleura.*[2]

By M. LEPINE.

(*Gazette Médicale de Paris*, No. 14, 1870.)

In his treatise on tumors, Virchow mentions the possibility of a propagation of morbid growths to the surface of the layers of a serous membrane. "Where, for example, there exists," he writes, "a primary cancer of the stomach which extends as far as the serous coat, it is not a rare occurrence for the peritoneum to become the seat of a multiple cancerous eruption distributed not uniformly but at points often very remote, and so disposed as to be contaminated by substances which glide over the peritoneal surface of the abdominal wall, as, for example, near the lateral ligaments of the bladder and in the recto-vesical, recto-uterine, or utero-vesical pouch. At these points are formed other small islands of morbid growth forming a second generation of nodosities, just as if one had scattered some seed which had germinated here and there in places where it had fallen."

This is all that has been said, according to M. Lepine's knowledge, upon this interesting mode of the propagation of tumors. M. Lepine, however, has observed facts of the same order occurring in the pleural serous membrane, and these seem to him to be worthy of mention.

In three cases of cancer of the breast on the left side, unaccompanied by generalization, but which had attacked by direct propagation the parietal layer of the subjacent pleura, M. Lepine made out on the surface of this membrane the existence of numerous nodosities varying in dimensions and isolated the one from the other. These nodosities were more abundant on the diaphragmatic pleura, where they formed from their confluence a kind of large patch several centimetres in extent. The right pleura was sound. The lungs and other organs were absolutely free from cancer.

In young subjects who were not in other respects the subjects of miliary tuberculosis, but whose lungs presented tuberculous lesions extending to the visceral pleura, M. Lepine in many instances observed granulations existing upon the point of the parietal pleura which corresponded to the lesion of the visceral membrane, the rest of the pleura being healthy. There were no adhesions between the two pleural layers. In these cases, after an attentive examination, it seemed impossible to explain the localized affection of the parietal pleura otherwise than by admitting a contagion which had operated by contiguity.

---

[1] Read at the Académie de Médecine, Nov. 27, 1869.

[2] Communicated to the Société de Biologie.

In a fair number of cases the lesions of the parietal pleura present a remarkable localization. It is on the diaphragmatic pleura around the central tendon of the muscle and at the place where the muscular fibres end that one may observe these granulations seated. Sometimes they rest upon a false membrane, in other cases there is no trace of such a structure. Sometimes they are few in number, at others their number is very considerable; but even in the latter case, they generally respect that part of the pleura which corresponds to the central tendon, and form by their agglomeration at its periphery, a pretty regular circle. It is probable that this localization depends upon special anatomical dispositions, and that in this will be found the reason of the greater susceptibility of this region of the pleura. Perhaps it is due to a greater richness of the lymphatics at this point; but the knowledge we possess concerning the structure of the diaphragmatic pleura in man is not yet sufficiently precise for one to give an affirmative answer on this point.

M. Lepine remarks in conclusion, that in two of the cases observed by him, the lesion that had been the origin of the granulations was not tuberculous but was a kind of caseous pneumonia. It is interesting to note that an affection of this nature may give rise in *an immediate manner* to true tubercle. Caseous products, according to Buhl, may produce tuberculosis, but then they had been previously introduced into the circulation, which did not take place in the two cases observed by M. Lepine. Is there not some reason for admitting, M. Lepine adds, a mutual parentage between caseous pneumonia and tuberculosis.

Art. 24.—*On the Origin of Pus Globules.*[1]

By MM. Vulpian and Hayem.

(*Gazette Hebdomadaire*, No. 7, 1870.)

M. Vulpian recalls the fact that he presented on a previous occasion a manuscript by M. Hayem, on the mechanism of suppuration, which confirmed on most points the facts that had been published by Cohnheim. If the pus globules are nothing more than leucocytes of extravasated blood, one ought in all cases of suppuration in man to be able to make out, when this investigation is possible, the various phases of this phenomenon of the emigration of leucocytes. M. Vulpian has already cited the results obtained by Koster, and Volkmann, and Steudener, with regard to erysipelas, and has verified these in several instances; he has also announced that his observations on the skin when irritated by blisters have led him to conclusions completely confirmatory of the ideas of Waller and Cohnheim. The present memoir is intended to indicate fresh facts, the significance of which is equally decisive. Some of these were observed by M. Hayem, others by M. Vulpian himself.

Pericarditis.—M. Hayem, on examining the newly-formed membranes uniting the two layers of the pericardium in a case where there was adhesion over an aneurism of the ventricular wall, saw in these, globules of pus which had accumulated about the vessels. These vessels were filled with white and red corpuscles.

Encephalitis.—In centres of encephalitis produced by experimental irritation in rabbits and dogs, the vessels were found to be filled with red corpuscles, whilst the peri-vascular sheaths were swollen by a quantity, more or less great, of white corpuscles.

Myositis.—Leucocytes were also observed along the veins in the neighborhood of small abscesses formed in a muscle after typhoid fever; the same appearances were presented in artificially inflamed muscles of dogs.

Fistula in Ano.—Finally M. Hayem, in studying sections of the wall of an intestinal fistula made perpendicularly to its direction, found below a rather thick epithelial layer, irregular papillæ containing vessels which were surrounded by a great number of white corpuscles. The neighboring connective tissue was rich in anastomotic spaces which contained analogous bodies to those surrounding the vessels.

M. Vulpian has examined several tissues in the course of suppuration, prin-

---

[1] Communicated to the Académie de Médecine.

cipally mucous membranes and integument: in all cases in which it was possible to make sufficiently fine preparations, he made out a disposition of leucocytes similar to that described by M. Hayem. Things were thus presented in an instance of subacute gangrenous cyst observed in a dog, after transverse section of the spinal cord. At several points of the preparations were seen masses of leucocytes in the immediate neighborhood of the vessels, which were filled with red corpuscles mixed with a small number of the white corpuscles.

In a case of facial erysipelas accompanied by erysipelas of the mucous membrane of the nasal fossæ, this membrane contained a very great number of leucocytes, some of which were disseminated, and others, much more numerous, collected around the venous vessels. These vessels—and a similar disposition was also presented in the integuments—likewise contained a great number of leucocytes, which were found as well in the thickness of the vascular walls.

In a case of inflammation of the mucous membrane of the frontal sinus in a syphilitic subject, were perceived in preparations examined under the microscope, vessels filled by a very considerable number of leucocytes in the midst of red corpuscles; but there was so great a mass of leucocytes contained in the intervascular spaces, that one could not distinguish whether there was any relation of distribution between the seat of the vessels and the accumulation of the white corpuscles.

The mucous membrane of the bronchi, in cases of chronic bronchitis, also showed leucocytes in great number in the neighborhood of the superficial vessels which contained very many similar bodies.

Similar appearances were presented in preparations consisting in sections made from the edges of a suppurating wound. In this case the incision had been made in the superior region of the dog's thigh for ligature of a crural vein. At several points where the quantity of leucocytes disseminated below the surface of the wound was less considerable, it was easy to see that these bodies were collected in very great quantities, and pressed against each other in the immediate neighborhood of the vessels, and that they were more and more separated from each other as they became more remote from the walls of the vessels.

In addition to the facts already mentioned in relation to the skin in erysipelas, and under the influence of venesection, M. Vulpian directs attention to the condition of this membrane in cases of irritation by croton oil and of variola. M. Vulpian having had occasion to examine the skin of the neck in a case where it was covered by innumerable vesicles produced by friction with croton oil, and at the time when these vesicles contained a thick serosity, was able to make some very significant preparations. After having macerated the skin for some hours in alcohol, thin sections were made with a razor perpendicularly to the surface of the skin. These sections were then treated with glycerine and acetic acid. At the points where the vesicles existed, the deep-seated parts of the Malpighian layer were separated in such a manner as to constitute kinds of areolæ, irregular both in form and dimension. The horny layer of the epidermis appeared to be but slightly modified. The change in the Malpighian layer did not reach to the row of cells immediately contiguous to the dermis. In the areolæ some leucocytes were found scattered here and there. The cells of the Malpighian layer in the neighborhood of these areolæ, and even along the whole extent of the irritated portions of skin, seemed to be somewhat swollen; in several of them the nucleus had undergone vesicular alteration, well studied as a mechanical result by M. Ranvier. But what was of particular interest with regard to the subject in question, was the fact that the vessels of the dermis near to the epidermis were filled in great part with leucocytes at the points which corresponded to the vesicles. The capillary loops contained in the vascular papillæ of the dermis at these points also contained numerous leucocytes; and it was even possible to observe some leucocytes inclosed within the walls of these vessels, and others in the narrow space existing between the summits and the lateral parts of the capillary loops and the deep surface of the layer of Malpighi; and others again, deformed in various ways, in the act of penetrating among the epidermic cells contiguous to the dermal papillæ. In this mass one had in view all the stages of the straight road taken by the leucocytes

between the vessels of the dermis—their starting-point, and the morbid areolar spaces of the Malpighian layer—the end of their voyage.

M. Vulpian has also examined the skin of several subjects after death from variola either simply confluent or both confluent and hemorrhagic. He was able to verify exactly the descriptions given by several authorities, especially by MM. Auspitz and Basch and by M. Cornil, with regard to the histology of the pustules of variola. But in addition his attention was fixed upon the condition of the dermis at points corresponding to the pustules. Everything does not indeed consist in the modifications of the cells of the two layers of the epidermis, in the areolæ of the Malpighian layer, and in the presence of fluid filling these cells, and which contains a more or less considerable number of leucocytes, either free or included in more or less developed cells, and débris of epidermic cells, granular fibrine, and often some red blood-corpuscles. It does not even suffice to say, in order to be precise, that there was a multiplication of elements of the connective tissue of the dermis in the neighborhood of the pustules. All the phenomena were not confined to this, since the superficial vessels of the dermis were more or less dilated. Some were filled with an enormous mass of red corpuscles, in the midst of which were perceived but few white corpuscles; others were almost exclusively filled with leucocytes, and were surrounded by innumerable anatomical elements of the same kind. These extravasated leucocytes became less and less numerous as the eye was directed to points more and more remote from the vessels which had supplied to them a passage. In the vascular papillæ corresponding to the seat of the pustules the vascular loops contained numerous leucocytes, and one could see them externally to these, not only in the papillary layer immediately contiguous to the deep surface of the layer of Malpighi, but also among the swollen, misshapen, and altered cells close to the dermis.

The accumulation of leucocytes was especially observed in the most superficial vessels of the dermis, but they existed also scattered here and there in vessels at some distance from the surfaces of the papillary body. In the cases of variola, as indeed in all hitherto enumerated, it could be readily made out that it was almost exclusively in the veins that this accumulation of leucocytes had taken place. In cases where the variola was of the hemorrhagic form, extravasated red corpuscles of the blood could be seen more or less abundantly in the midst of the leucocytes.

These observations tend to demonstrate that the pus contained in the pustules of variola is constituted, as to its leucocytes, by the white corpuscles of extravasated blood which have travelled gradually along the tissue of the dermis from the external surface of the vessels into the areolæ formed in the Malpighian layer. The leucocytes which are found accumulated in varying numbers in large cells are without doubt the white corpuscles of the blood which have penetrated by a kind of invagination and adhesive incorporation into the protoplasm of the epidermic cells; this presumption is supported by observations that have been made be Volkmann.

The facts given briefly in this paper, with those which have been made out by M. Hayem and those observed by M. Vulpian, when taken together with the results of investigations previously made by other authors, appear to be of such a nature as to show that the theory of Valler and Cohnheim upon the mechanism of suppuration ought to be substituted, at least in the majority of cases if not in all, for those ideas which have been hitherto promulgated on the mode of origin of the leucocytes of pus.

This theory allows one to comprehend, more readily perhaps than any other, the rapidity with which pus is formed under certain conditions. M. Vulpian has found in cases of wounds made experimentally, that the effused serum might already contain globules of pus at the end of the ninth hour. Again, it is known with what rapidity the so-called metastatic abscesses are sometimes formed.

Finally, the theory of the emigration of the leucocytes of the blood would acquire a still greater importance if ulterior researches should confirm the hypothesis maintained by some histologists in relation to the property attributed to the extravasated anatomical elements of being able to proliferate after they

have been transported to a greater or less extent from the interior of the vessel which has allowed them to pass away, and thus to contribute to the development of normal and of morbid tissues.

Art. 25.—*On Relapsing Fever.*

By Dr. Broadbent.

(*The Lancet*, December 11.)

At the last meeting of the Harveian Society, an admirable clinical account of this disease, as witnessed during the last few months at the Fever Hospital, was read by Dr. Broadbent. After speaking of the nature, symptoms, and course of the disease, as exemplified anew in the existing outbreak, Dr. Broadbent made special reference to the phenomena attending the relapse, which occur with great regularity on the fourteenth day from the initial rigor, whether the febrile attack has been long or short, severe or slight, and are heralded by very definite alterations in the temperature, whilst the patient has been entirely free from subjective symptoms, not having the slightest headache, and eating and digesting a full meal. The rise in the temperature has often been as much as to 104°.8 F. under the circumstances.

The diagnosis of relapsing fever from typhus and enteric fevers turns mainly on the abrupt access and severe suffering of the former, and on the absence of the facies and rash characteristics of the latter. Some of the more important symptoms were then examined by Dr. Broadbent in greater detail, and particularly the violent delirium which suddenly sets in in a few cases, and which may almost as suddenly subside. The phenomena of the interval also were considered, with reference to the question whether this period is a phase of the disease, or an interval of health, the author inclining to the former view.

The routine treatment pursued by the author was as follows: During the attack a fluid diet, acetate of ammonia every three or four hours, opiates if required in consequence of sleeplessness or pain, stimulants if specially indicated. In the interval, bark of quinine and iron, with full diet and beer, an aperient of some kind being generally required. In the relapse, it is usually necessary to go back to the milk and beef-tea; but some patients keep their appetite, and are allowed solid food. As a rule the tonic is continued. Efforts have, however, been made to moderate the violence of the original attack on the one hand, and to prevent the relapse on the other, but without any great success.

Among the remedies employed for the first of these objects has been aconite, which has been found to reduce the frequency of the pulse and bring down the temperature in other acute diseases. No obvious effects have been obtained, the time being too short, and the duration of the pyrexia too variable. Alkalies in large doses only cause pain in the stomach. The wet sheet applied twice a day brings down the temperature one or two degrees, and sometimes relieves headache, but it does not appear to hasten at all the occurrence of the critical perspiration, and some patients object to it.

It has been attempted to prevent the relapse by a very liberal diet during the interval, and by endeavoring to break the fall from one extreme to the other at the crisis by giving beef-tea, milk, and stimulants, so that if the interval and relapse correspond at all to the swing of the pendulum, this swing might be checked. No definite results, however, have been obtained. Arsenic in full doses, and five or six grains of quinine three times a day, have been given through the interval without effect. Quinine, again, has been given in large doses (fifteen or twenty grains), the evening before the relapse became due, the result being, apparently, a postponement of the attack, and this having occurred in so many instances that it can scarcely be accidental. Up to the present, however, it cannot be said that the relapse may be prevented, or even rendered less severe. Experiments are still in progress for the purpose of ascertaining whether this result may be obtained by repeated large doses of quinine.

ART. 26.—*Cancerous Affections Successfully Treated.*

By E. A. KUNKLER.

(*Pacific Medical and Surgical Journal.*)

Dr. Kunkler, in an extended article upon this subject, giving several cases which he had treated successfully, draws the following inferences: 1st. Cancerous affections are always the result of irritation, present or past, direct or sympathetic, single or multiple; and no cure can be effected unless the causes, if still present, are ascertained and removed. 2d. Inflammatory action in a cancer is the result of irritation; the severity of the first depends upon the intensity of the last; and tonic inflammation will subside with the cessation of the irritation, while atonic inflammation will continue, although the original irritation might have ceased, and consequently atonic inflammation must always be attended to. 3d. Acute inflammation leads to suppuration, chronic inflammation leading to abnormal nutrition and induration of the affected parts, according to the degree of inflammation and the tissues involved. 4th. Scirrhous cancer is an aggravated induration by fibrinous deposits, causing obliteration of bloodvessels in the affected parts, whereby softening and mortification of these parts are occasioned. 5th. Encephaloid, colloid, and the fungoid forms of cancer are the result of various morbid processes involving different tissues and bloodvessels. 6th. The cell formations observed in some carcinomatous affections depend on perverted plasma, in which the cells are floating, from which they imbibe an abnormal nutrition. 7th. The offensive odor in the advanced stage of cancerous affections is the result of the decomposition of the animal tissues, whereby sulphuretted and phosphuretted hydrogen are formed. 8th. The destruction of the tissues in cancer is produced by the effect of these fetid gases, especially by the sulphuretted hydrogen. 9th. To arrest the progress of cancer, the removal of the affected parts is sufficient only when the original irritation has subsided, and there is neither atonic inflammation nor induration in the neighboring parts; but in all the forms of the disease proceeding from internal irritation, and from atonic inflammation and induration, no permanent cure can be expected unless all the pathological conditions are rectified, and the blood brought back to its normal standard.

ART. 27.—*On Sea-Sickness.*

By FORDYCE BARKER, M.D.

(*Medical Record*, September 15, 1869.)

At a meeting of the New York Medical Journal Association, Dr. Barker read a paper upon sea-sickness. He began his discussion of this affection by a rapid review of the various theories that have been held concerning it. Semanas charged it to miasma generated in the confined air of the ship; but it was suffered equally in open boats. Darwin thought it occasioned by the sight of objects always in motion; but the blind were no more exempt from it than the seeing. Keransaen regarded it as resulting from agitation of the abdominal viscera; but riding, jumping, gymnastics, produced no such result. Wollaston considered it due to vascular engorgement of the brain, mechanically produced; but the symptoms of sea-sickness were quite different from those of congestion. Bellarin held that the sudden movements of the body decreased the ascending force of the blood, resulting in sudden anæmia of the brain; this, through the sympathetic system, excited vomiting, which refilled the cerebral vessels. Sper, Gilchrist, Marsh, and Fonsagrives ascribe sea-sickness to cerebral commotion from oscillation. A. Jobert looked upon it as an indigestion produced by physical interference with the peristaltic action of the stomach. Chapman, whose claim to cure the malady by the application of ice-bags to the spine had drawn attention to his views, held that its proximate cause was congestion of

the nervous centres along the back, especially in those segments of the cord related to the stomach and the muscles concerned in vomiting; this congestion being due to the slight concussions of the brain against the base and roof of the skull, in the alternate rise and fall of the body; to the slight jerks similarly produced, upon the lateral ligaments suspending the spinal cord; and to the more or less violent movements of the abdominal and pelvic viscera.

Some of the above theories the speaker deemed misty and obscure, others fanciful and absurd, others again positively false, and none satisfactory. His own view, which he stated with modesty, was that sea-sickness is "due to the sudden and recurring changes of the relations of the fluids to the solids of the body, and the nervous disturbances which result from these changes." The alternate movements of ascent and descent produce "alterations of afflux and delay in the arrival of the blood to the different organs of the body, which disturb their functions, and those of the brain especially," with results analogous to the nausea and vomiting which some persons experience after venesection.

Persons differ greatly in the symptoms of sea-sickness, as well as in the susceptibility to it; and the same is true of the lower animals, which are also subject to the malady. With some persons headache is the prominent symptom; with others, intense nausea; with others still, simple vomiting without nausea or other distress. With most, their troubles cease after a few days, but some unfortunates can never become accustomed to the sea. Even in the worst cases, a strong mental emotion, such as terror, will often effect a sudden respite, if not a cure.

It is a popular error that sea-sickness is often beneficial, and never permanently injurious. Of itself, it is probably almost never helpful, and the benefit from a voyage is commonly in proportion to the freedom from sea-sickness. That it may result in serious and permanent injury, there is no question; and, though rarely fatal, yet more deaths are to be charged to it than might be supposed. The speaker had met with three in his own experience.

There are no specifics for sea-sickness; the land is the only sure prophylactic, and the horizontal posture the nearest approach to a cure. But though drugs are useless, hygiene may do much towards averting the evil or mitigating its worst features. These are often due to previous exhaustion, from the fatigue of travel, with bad ventilation and want of regular sleep and food; or from the excitement incident to preparations for departure. And frequently this exhaustion is aggravated by a violent cathartic, taken to clear out the bile, that is supposed to be responsible for all the suffering—how absurdly need not be said. Select, then, a well-ventilated state-room on the sunny side of the steamer, as central as possible, but away from the furnaces. Have all preparations made so as to secure a full day's rest before starting. Eat as hearty a meal as possible within two or three hours before going on board. Be early enough aboard, to arrange everything that may be required for a day or two; *go to bed before the vessel gets under way;* and stay there a day or two, or until you feel that the danger of sickness is past. Eat regularly and heartily, but *without raising the head.* On the first night out take some mild laxative, such as two or three compound rhubarb pills, to obviate the constipation to which most persons are liable at sea. (But avoid cathartics before starting. Effervescing laxatives in the morning are bad in this affection.) After having become accustomed to the sea and able to walk on deck, never rise in the morning until you have eaten something, as a bowl of porridge, or a sea-biscuit with a cup of coffee. Lastly, if rough weather comes on, don't attempt to brave it, but go to bed before getting sick.

With regard to the effect of Chapman's ice-bags, Dr. Barker had made particular inquiries in England and France of many physicians and others who had used them, and found the bulk of testimony against their value. Some deemed them not only useless, but harmful, from causing nervous depression. He inquired if any one present had seen fatal results from sea-sickness.

Art. 28.—*Hemorrhagic Malaria.*

By L. Michel, M.D.

(*New Orleans Journal of Medicine.*)

Dr. L. Michel (*New Orleans Journal of Medicine*) in an elaborate article describes a disease peculiar to the Southern States, and which was first described in 1867. It is a disease due to malaria, and is ushered in by a chill of the congestion type, followed by high fever, parched mouth, extreme thirst, suffused eyes, restlessness and anxiety, sighing respiration, quick bounding pulse. During the febrile manifestation nausea and vomiting are extreme. The patient vomits a dark grumous bile. After the nausea has continued five or six or more hours, jaundice and bloody urine show themselves. The suffused eyes now become instantaneously yellow, and the red skin changes to a bronzed yellow. With the hæmaturia we have pain in the back, well defined in the region of the kidneys. The tongue varies in appearance from a pale milky color to a straw color, and skin dark-brown. After a time a remission occurs, in which there is a decided abatement in all the symptoms, except the nausea and vomiting. During the remission the skin is frequently less yellow, and the urine becomes clear and limpid, only to reassume its bloody color upon the invasion of the chill. The skin frequently becomes permanently dark-bronzed, and the face, chest, and abdomen studded with profuse hæmorrhagica and vibices, and should a blister be applied, the cuticle will be filled with bloody serum. The bowels are usually constipated, though sometimes there are copious dejections of dark, tarry, feculent matter. The mind is usually clear. It mostly runs its course in from four to twelve days. Autopsies reveal extreme rigor mortis. Muscles very red. A yellow color pervades the brain, chest, and abdominal organs. Stomach filled with dark grumous bile. The spleen much enlarged, and hard and solid. Kidneys enlarged, and presenting the appearance of passing through severe inflammatory action. Treatment best adapted for this disease is, first of all, to give large doses of mercurials, followed by oil, and after the bowels are moved to give large doses of quinine, with capsicum, until the quinine has produced a decided impression. For the hæmaturia, astringents with opium may be given.

Art. 29.—*Influence of Nutriment on Disease.*

By Dr. Salisbury.

(*Medical Record*, November 1, 1869.)

The *Journal Central de Médecine de Berlin* publishes *seriatim* the conclusions arrived at by Dr. Salisbury from a large number of experiments on this subject. They are as follows:—

1. The continuous use of vegetable aliments, particularly of the leguminous and amylaceous plants, provokes constipation and a sort of scorbutic condition.

2. The use of amylaceous plants causes a great variety of morbid conditions; for example, fibrinous deposits and embola in the capillary vessels, and congestion, inflammation, diarrhœa, and paralysis, as the result, and, at a later period, tuberculous deposits in the lungs, affection of the eyes and ears, and pains in the back and extremities.

3. These symptoms may be advantageously met by having recourse to albuminoid aliments of animal origin, and especially by the use of salts of potash and iron, which prevent coagulation of fibrin, favor the circulation of the blood, and render active absorption and intestinal secretion.

4. The morbid states which we have enumerated are developed in armies on the field, especially when they are subjected to an amylaceous dietary.

5. The officers, who have the privilege of varying their diet, are free from these accidents.

6. When the nutriment is exclusively amylaceous or saccharine, constipation soon appears, and stomachic digestion is effected with difficulty.

7. This constipation is not slow in engendering the products of fermentation, intestinal gases, and parasites in great number.

8. This condition continues until diarrhœa sets in, and then small colloid gelatinous masses are found in the feces in variable quantity.

9. These are in no respect the cause of the diarrhœa; they result from the production and metamorphosis of saccharine and fermentive matter. Once produced, these substances act as a true poison on the organism, and aggravate the intestinal lesions.

10. It is specially in the evening and during the night that the products of fermentation are developed in the intestines. Each day they increase. The continual excitement of the intestinal mucous membrane by the gases and parasites produces diarrhœa, which soon becomes chronic, and resists all methods of treatment.

11. This state is always accompanied with a tendency to paralysis, and by singing in the ears and violent headache, symptoms which are attributable to defective nourishment and to the presence of fibrinous masses in the capillary vessels.

12. There are often at this stage symptoms of bronchitis. The expectoration is thick, yellow, principally at night, and it is complicated with dyspnœa and palpitations.

13. Diabetes and strumous affections often supervene on a diet exclusively saccharine or containing too much starch.

14. The diarrhœa, characterized by colloid greenish stools, which attacks children during the summer, depends on the abuse of saccharine substances and fruits, and the colloid masses are derived from the intestinal epithelium.

SECT. II.—SPECIAL QUESTIONS IN MEDICINE.

(A) CONCERNING THE NERVOUS SYSTEM.

ART. 30.—*An Inquiry into the Nature, Origin, and Treatment of Hysteric Diseases.*[1]

By ROBERT LEE, M.D.

(*Medical Times and Gazette*, April 2.)

In the first part of this paper, the author gave an elaborate review of the history of hysteric diseases from the earliest ages to the present time. The opinions and methods of treatment adopted by Aretæus, Galen, Celsus, Sydenham, Hoffman, Cullen, and the most eminent writers of the present century, were given in detail. Respecting hysteria in the male sex, the author stated that he had never seen a genuine example; but in the female sex, a great number—a greater number than it was possible for him to state. An accurate report of upwards of two hundred of these cases accompanied the communication. If these histories were examined, the author stated the following conclusions might be drawn. In none did the disease occur before the age of puberty, and in few after the middle period of life. In few of the cases recorded were the functions of the ovaries and uterus in a perfectly healthy state. In the greater number there was amenorrhœa, dysmenorrhœa, menorrhagia, leucorrhœa, or a morbid state of increased or diminished sensibility in the uterine organs, without any organic disease. The author added that, in the greater number, there was incurable sterility; and he stated that he had been led to conclude from the symptoms observed in these cases that hysteria originates in the ovary, on which menstruation depends, in which conception takes place, and to

[1] Abstract of a Paper read at a meeting of the Royal Medical and Chirurgical Society, March 8.

the influence of which are to be attributed the development of the female pelvis and mammæ, and all the peculiarities of the female constitution. The result of the author's dissections of the renal ganglia and nerves, and those of the ovary, now in the museum of the university at Cambridge, were given; and from them an explanation was given of the cause of the discharge of a great quantity of clear urine after the hysteric paroxysms. Other seats of hysteria were then described, with a letter on the subject from Mr. Joseph Swan. The paper concluded with a summary of the different remedies employed in the two hundred cases; the two last of these methods of treatment were clitoridectomy and cutting away of the coccyx.

Dr. Schulhof said that, in a large number of hysterical patients whom he had examined, in nine out of ten he had found the spine not perfectly straight. There was not visible deformity; but the displacement was sufficient, he thought, to produce pressure on the ganglia.

Mr. Barwell could not agree with Dr. Schulhof's view, seeing that in very many cases of well-marked spinal deformity, where (especially in angular curvature) pressure on the nerves would be expected, hysteria was absent.

Dr. Buzzard had, from his observations at the Hospital for the Paralyzed and Epileptic, been led to divide hysteria into several classes. One class was represented by young women who, without disorder of the uterine functions, were paralyzed in one or more limbs. In these cases he thought the disorder of mental origin; it was best treated by acting on the imagination or attention. Next, there were the cases presenting the well-known hysterical symptoms. And, finally, there were the hysterical fits or seizures, which it was difficult to distinguish from epileptic attacks. The idea of hysteria in Dr. Lee's paper was too limited; it did not take in hysterical convulsions. He doubted whether it was quite correct to refer all cases of apparent paralysis to hysteria; another term ought, perhaps, to be adopted for these.

Mr. Hovell said that the term hysteria was too loosely applied, and ought to be restricted to disorders arising from uterine irritation. He would suggest the term "emotional susceptibility" for many of those conditions which were described as hysteria; and this would coincide with the opinion of the late Sir B. Brodie. Hysteria was, he thought, referable rather to mental or moral shock than to uterine irritation; and this would account for its occasional occurrence in men. The shock probably acted on the sympathetic nerve; and hence arose the palpitation and flushing of the face; and the paralysis (or, more properly, paresis) would be accounted for by the disturbance of the nutritive function through the vaso-motor nerves.

Dr. Wynn Williams said that the term hysteria seemed to be made to include all diseases that people could make nothing of. Ovarian mischief would no doubt cause hysterical symptoms in some cases; but in many these depended on uterine displacement, with which indeed the ovaries often sympathized. The replacement of the uterus would remove the symptoms.

Dr. Barclay did not think that hysteria was so often connected with uterine affections. There was no form of uterine or of ovarian disease that might not exist without hysteria. He was surprised that Dr. Lee should regard the ovaries as the origin of hysteria; he had seen cases in the male which he should regard as hysterical. He believed that hysteria depended on a peculiar mental and nervous organization, dependent on sex in the same way as were the modifications in the osseous and other structures. The hysterical symptoms connected with the uterus could not, he thought, be formed into a class separate from those arising from derangements of other organs.

Mr. Holmes was not sure that Dr. Lee laid down absolutely that hysteria depended on the ovaries. He appeared to refer in his paper to hysteria arising from other sources, such as irritation of the nerves at the neck of the uterus.

Dr. Barnes agreed with Dr. Lee as to the connection of the ovaries with hysteria. The term hysteria was applied when the uterus was supposed to be everything—when it was said that "Mulier est propter uterum." Within the last thirty or forty years it had become recognized that the ovary was the source of the physiological changes in the female. No doubt it had the power of evoking nervous phenomena. The first attacks of hysteria came on with

menstruation, and in many instances it attended the menstrual epochs. Disturbed ovarian function attended many cases of uterine disease. If the physiological flow of blood to the sexual organs could not be relieved through the uterus, nervous symptoms would set in. Treatment directed merely to the nervous system might fail; the connection between the uterus and ovaries should be remembered, and the uterine disorder treated, if one were found to be present.

ART. 31.—*Acute Hysteria in the Male—Treatment by Hypodermic Injection of Morphia.*

By JULIUS ALTHAUS, M.D., M.R.C.P., Physician to the Infirmary for Epilepsy and Paralysis.

(*Medical Times and Gazette*, April 9.)

The following case is related by Dr. Althaus: "In July, 1868, I was called to see a young gentleman, aged twenty-three, who had, as I was informed, been suffering from 'brain fever' during the last three days. His friends gave me the following history: About a week ago he received a letter informing him that a young lady to whom he was attached had engaged herself to another gentleman. On receipt of this news he flew into a violent rage, and smashed a good deal of glass and china which happened to be on the table. He then began to talk about the frailty of women, indulging in most sarcastic remarks on the sex in general. Two days afterwards a friend took him to Richmond for a change. The whole of that day he was silent and morose, and returned in the evening in a very bad humor. During the night he again became violent, and broke several pieces of furniture. Next morning, about 9 o'clock, he had a severe convulsive attack, in which he bit his tongue and foamed at the mouth, the limbs being considerably distorted for about fifteen minutes consecutively. After the attack he was exhausted, and remained so for about a quarter of an hour, when a similar paroxysm occurred, which was followed by many others in the course of the day. In all these attacks consciousness was not entirely lost. Between the fits he would either lie quietly in bed, or suddenly jump up, roll about the floor, and try to strangle himself, or to smash furniture. A medical practitioner was called in, who prescribed five grains of bromide of potassium several times daily. On an attempt being made to give him this medicine in a wineglass, he ground the glass to pieces between his teeth, and it was believed that he had swallowed some pieces of it. I saw him the day after, at 5 o'clock P. M., when I found him in much the same condition as just described—viz., occasionally seized by convulsive attacks, half-conscious and violent. He would not answer any questions. There was evidently no meningitis, as the pulse, the skin, and the pupils were in their normal condition. Under these circumstances, I looked upon the case as one of acute hysteria, caused by sudden and severe mental emotion. As it was impossible to make the patient swallow any medicine, I rapidly injected, during a temporary lull in his strugglings, half a grain of acetate of morphia into the cellular tissue of the forearm. Five minutes afterwards he was perfectly composed. In fifteen minutes he went to sleep, and slept for five hours consecutively. He then awoke, and was violently sick several times, although he had eaten nothing for two days. He got out of bed next morning about 10 A. M., and was quite calm, making no allusion to what had occurred. I saw him again at 5 P. M., and as there were then slight symptoms of restlessness returning, I repeated the injection, but used only one-sixth of a grain, the patient not offering the least resistance. The next day I was informed that he had had a good night's rest, and was perfectly rational and collected. I saw him again (not professionally) six weeks afterwards, when, in answer to my inquiries, he said that he was quite well, and never alluded to his having been ill. Some months ago I heard from his friends that he had continued in excellent health ever since, and was engaged to be married, having quite dismissed from his mind all thoughts of his former attachment.

"I will only add that I generally, in cases which require the subcutaneous administration of sedatives, use one part of atropia to twelve parts of morphia, in order to counteract the sickness and vomiting; but in the case just recorded I thought it best to utilize the vomitive effects of morphia simultaneously with its sedative action."

ART. 32.—*Hysterical Aphonia.*

By F. H. TANNER, M.D., M.R.C.P.

(*Medical Press and Circular*, December 29, 1869.)

Dr. Tanner says that he never fails to cure this obstinate nervous disease by means of electro-magnetism. He places the patient in a chair, gives her one handle of the instrument moistened into her hand, and with the other touches the tongue. The patient then screams out violently, and thus convinces herself and friends that she has *not* lost her voice.

ART. 33.—*Clinical Facts in reference to Chorea.*

By Professor STEINER.

(*Der praktische Arzt*, November 9, 1869.)

Professor Steiner maintains that chorea must be regarded as originating in spinal irritation, which may be occasioned by anæmia, by hyperæmia, by serous effusions and extravasations of blood, and lastly, by neoplastic formations and organic changes occurring in the spinal cord itself, and its membranous and osseous coverings. These conditions may be of traumatic origin, or may be consequences of acute rheumatism, or finally, may result from anomalous processes of growth and development. The Professor had opportunities of making post-mortem examinations of three choreic subjects. The first resulted from a wound, and he found increase of growth in the connective tissues and an anæmic condition of the spinal cord, the spinal canal containing much serous fluid; in the second case he found a considerable degree of hyperæmia in the meninges and of the substance of the spinal cord, with serous effusion into the canal; and in the third case, which had been the subject of articular rheumatism, he found pericarditis and endocarditis, as well as inflammatory exudation into the canal of the spinal cord.

Anæmia of the spinal cord is the condition which the Professor believes to be most frequent, accompanied by certain anomalous processes of growth and development, since in fifty-two cases of the disease the ages of the sufferers were from six to eleven. According to the nature of the changes, the choreic symptoms are slight or severe, unilateral or bilateral, curable or incurable. Among the fifty-two cases forty were female, twelve male. When spinal irritation is already present, the attack of chorea may be induced by psychical causes, as fear, fright, &c., or by certain mechanical causes, as blows, falls, &c. The usual duration of the disease is from four to nine weeks, but relapses are frequent.

In regard to the treatment of the disease, Professor Steiner holds that chorea in the majority of cases cures itself, though there are other cases which resist every remedial means. Certain remedies, however, ameliorate and shorten the duration of the disease in the first class of cases. In view of the anæmia so frequently present, Professor Steiner orders iron, either alone or in combination with oxide of zinc, as in the following prescription: Ferri carbon. saccharati, 2 parts; zinci oxyd. 1-25 part; sacch. alb. 8 parts; M., ft. pulv. t. d. sumen. The diet should be easily digestible and abundant. If, after the employment of the iron for a fortnight, no improvement occurs, the Professor resorts to the preparations of arsenic, by which the disease is often quickly and certainly cured, the general nutrition of the body and the appearance being at the same time much improved. He usually commences with one drop *per diem*, and increases

the dose after three or four days to two, three, four, and five drops, and then, if improvement have resulted, withdraws the remedy in the same gradual way. Cold water, applied hydropathically, is sometimes very serviceable. If the disease owes its origin to rheumatism, the remedies appropriate to that diathesis must be administered. The subcutaneous injection of arsenicum, sulphur, chloroform, and morphia, furnishes no satisfactory results.

Art. 34.—*Contributions to the Pathology of Chorea.*

By Henry M. Tuckwell, M.D. Oxon.

(*St. Bartholomew's Hospital Reports*, vol. v.)

Dr. Tuckwell, who is a supporter of Dr. Kirkes' views in regard to the frequent dependence of chorea upon embolism of the cerebral arteries, finds them entirely confirmed by the history and results of the autopsy of the case of fatal chorea, which he reports.

The following extracts are taken from notes made at the autopsy: "The brain was well developed and presented nothing abnormal in its coverings or surface. The upper half of each cerebral hemisphere was carefully sliced down to a level with the corpus callosum, and the lateral ventricles were opened without any trace of softening being detected in either the gray or white matter of this part. The corpus callosum and fornix were firm and healthy. No excess of fluid in the lateral ventricles. The brain was now turned over, and the cerebral arteries were carefully followed up by dissection to their smaller branches, without any evidence of obstruction in any part of their course. But on tracing out the posterior cerebral artery, and thereby displacing the middle cerebral lobe, it became manifest that the under part of this lobe on the right side was in a state of softening. This softening was not excessive, but easily recognizable; it had not, apparently, affected the very surface of the convolutions, but involved the deeper layers of the cortex, and more especially the subjacent white substance, extending upwards into the neighborhood of the corpus striatum and optic thalamus, which ganglia lay, as it were, imbedded in a nest of softened cerebral matter. The softened tissue was redder than the surrounding healthy white substance, this red tinge being especially pronounced in the deepest layer of the cortex. The corpus striatum was, seemingly, not itself affected. The optic thalamus was encroached on at its under and outer aspect by the disease, but was in the main firm and apparently natural. . . . A microscopical examination of the fresh brain-tissue showed that in those parts which to the naked eye appeared soft, many of the small bloodvessels were dotted along their walls with minute granules scattered and in clusters. In the firm, healthy-looking brain-tissue no such appearance could be detected. . . . The mitral valve, looked at from its ventricular aspect, seemed perfectly competent, and presented no unusual appearance; but examined from its auricular aspect, by opening out the left auricle, it was altered as follows: A line of numerous, bright, clustering, warty vegetations, some as large as a pin's head, others so minute as to be only just visible to the naked eye, and that in a certain light, but shining like little white beads when slightly magnified, extended in a sinuous course all along the free margin of each cusp. In two or three places these little groups appeared to have been shed off, for they hung only by a fine pedicle to the line of attachment, and clung close to the chordæ tendineæ."

Embolic patches were, moreover, found in the kidneys.

The condition of the heart above described also existed in the case reported by the author in the *British and Foreign Medico-Chirurgical Review* for October, 1867, and he believes that it is one of the most frequent lesions in this disease. Dr. Hughlings-Jackson and Dr. Broadbent have both adopted the theory of the embolic origin of chorea, and have located the exact seat of the disease; the former in the nerve-tissue forming the convolutions near the corpus striatum; the latter in the sensori-motor ganglia themselves, and both hold that the chorea arises from the irritability or disordered nutrition of these parts, which results from the shutting off of their due supply of blood, and as a similar

condition of the cerebral hemispheres will produce delirium, so chorea may be regarded as a delirium of the sensori-motor ganglia. If the disturbance of nutrition be carried still further, it results in paralysis, and it will be remembered that paralysis frequently alternates with choreic convulsions. Dr. Broadbent, while he insists upon embolism as the usual cause, says, that as the sensori-motor ganglia are the seat of the disease, anything which produces disturbance in their nutrition will give rise to it, and it may therefore occasionally depend upon peripheral irritation, producing disordered nutrition of this part of the brain.

Dr. Tuckwell, in corroboration of his opinion that the condition of the valves found in the case which he reports, is a frequent one in chorea, refers to a paper by Dr. Ogle, and which contains the histories of sixteen fatal cases, in ten of which fibrinous concretions were found on the valves, and in eight of these ten on their auricular surface. Dr. Broadbent meets Dr. Ogle's objection that in cases of "acknowledged capillary embolism, chorea has not been present, but rather the symptoms and post-mortem appearances of pyæmia and gangrene, with the reply that the condition of the heart which gives rise to the symptoms of pyæmia, is not that found in the choreic heart. In the former we see a process of disintegration and breaking down of the valves going on, so that the degenerate débris, which passes into the circulation, acts evidently on the blood like the putrid fluids from a surgical wound, and death follows rapidly from pyæmia. In these cases are found, here and there—it may be in one organ only, as the kidney or spleen—emboli of various sizes, while the general appearance of the internal organs is just that which is met with in blood-poisoning. But how different is the choreic heart. Here there is no process of disintegration in the valves, but a collection of fresh vegetations which can do no more than act mechanically or as irritants."

Dr. Barnes is another opponent of the embolic origin of chorea, and asks the question: "Do you make a distinction between fatal and non-fatal cases? If you don't, you must allow that embolism is a very frequent and benign affection, which in the great majority of instances recovers." This Dr. Tuckwell answers by saying, that many of the cases which get well may be of reflex origin, and that he sees nothing improbable in the recovery of cases from embolism, inasmuch as cases of hemiplegia from embolism may and do recover. Dr. Tuckwell also holds that rheumatism is generally the cause of the condition of the valves which gives rise to chorea, and that this is especially true of children, and says that the reason that the pre-existence of rheumatism is not more clearly made out, is simply that, in many cases, rheumatism occurring in children presents certain anomalies which prevent its recognition. Thus there is in young persons an absence of great pain in or swelling of the joint, and of the profuse sweating which characterizes the disease in adults. Chorea, moreover, occurs most frequently in those who are most exposed to the causes of rheumatism, namely, the poor, while it is comparatively rare among those who are in comfortable circumstances.

ART. 35.—*A Case of severe Chorea during Pregnancy successfully treated with Hydrate of Chloral.*

By JAMES RUSSELL, M.D., F.R.C.P., Physician to the Birmingham General Hospital.

(*Medical Times and Gazette*, Jan. 8.)

The following case exhibits very strikingly the beneficial influence of chloral in controlling the movements of severe chorea, and in affording the patient the benefit of prolonged sleep:—

"E. M., aged twenty-one, a healthy, vigorous-looking young woman, was admitted into the Birmingham General Hospital on October 29. She was nearly five months advanced in pregnancy with her first child. Choreic movements developed themselves from an unusually early period of gestation, almost from the beginning. It was asserted by her husband that she exhibited some irregu-

lar movements of the hands before marriage, but this assertion the patient most positively negatives. For the last three weeks, and especially for the last fortnight, the movements have become very violent, so that she was quite unable to stand, and was confined to her bed. They commenced in the left arm, and subsequently became general. Her eyes were 'set,' and the globes often 'worked.' She had difficulty in opening her mouth, and the masseters were observed to twitch. She quite lost the power of articulating, though she retained that of swallowing. Her sleep was also very much disturbed. She had never suffered from rheumatism, though a sister had been laid up with rheumatic fever. Her heart was healthy, her urine was free from albumen.

"At admission she presented a very aggravated form of chorea, the limbs and trunk being tossed at intervals with frightful violence; articulation was practically extinguished, but she swallowed fairly; the pupils were contractile and of medium size; her mind was clear, but she was exceedingly emotional.

"Full doses of bromide of potassium failed entirely, and her first night in the hospital was passed with only an hour and a half of sleep. At noon on October 30, Dr. Welch, our house-physician, administered the hydrate of chloral, and during the ensuing twenty-four hours she took seven doses, the first two of ten grains, the succeeding ones of fifteen. The first two doses procured some sleep, but after the third the sleep became more continuous, lasting successively for three, five, and three hours and a half. Whilst she was awake, the movements, though occasionally violent, were much lessened, and she spoke distinctly: she was also able to protrude her tongue; she took liquid food.

"Thirty grains of chloral at 6 P. M. on the 31st were followed by two hours' sleep, but pain, seated apparently in the uterus, kept her awake during the remainder of the night; the movements returned in the morning with much violence, chiefly in the trunk and extremities, speech was again interrupted, and she became much excited. Nutritive enemata were now ordered on November 1, each containing six grains of quinine, with cod-liver oil; and two doses of tincture of opium, of thirty and forty minims respectively, were also administered by the rectum, the chloral being suspended. Although she was quiet during November 1, the smallest excitement threw her into instant convulsion, and during the night, though feeling a great desire to sleep, she was unable to close her eyes. The uterine pain subsided.

"On November 2, after twenty grains of chloral at noon, she slept with little intermission till 9 P. M., when the dose was repeated, and she slept through the whole night; she told us next morning that she had enjoyed more sleep during that night than she had through the entire preceding month. She was almost perfectly quiet; her pupils were of medium size and contractile. Pulse was 104. She laughed and was in good spirits, but complained of inability to chew. She again took two doses at 5 and 9 P. M. of November 3, and slept from the former of these hours until 2 A. M., with one interval of an hour and a half. We found her in the morning perfectly quiet, though a little fidgety and her speech completely restored.

"The same treatment on the evening of the 4th procured ten hours of nearly continuous sleep, and the sleep continued through most of the following day. She now began to feed herself. The following night (of the 5th) the remedy nearly failed to give sleep; but on the 6th a single dose was perfectly successful. On the 7th no chloral was given; the night was sleepless. A single dose on the evening of the 8th gave sleep through the entire night, and next morning she carried liquid food to her mouth, talked well, and protruded her tongue perfectly.

"The chloral was discontinued on November 10. She had begun to walk, though in a very imperfect manner until November 25. She took every four hours fifteen minims of the tincture of hemp; she steadily improved in walking, and had good nights. From the 18th she began to sit up, and from December 3 spent a considerable part of the day out of bed, walking with fair facility, talking naturally, and presenting only the usual characters of a mild attack of the disease. She had emaciated partly, but otherwise was in good health. She left the hospital on December 10, presenting only the symptoms of a mild attack of her disease."

ART. 36.—*Trophic Disturbances in Neuralgia.*

By M. NOTHNAGEL.

(*The Lancet*, February 12.)

M. Nothnagel contributes a paper to Griesinger's *Archiv für Psychiatrie* on this subject, in which he gives the details of two cases of sciatica, in which, besides the ordinary symptoms, there were well-marked evidences of vascular contraction or cramp occurring coincidently with the attacks of pain. The condition was favorably influenced by warmth, unfavorably by cold. He then proceeds to discuss the cause of the emaciation of the extremities which so often follows neuralgia when protracted. The ordinary statement that it results from the condition of rest and immobility, into which the leg naturally falls on account of the pain, is no doubt correct in many cases, but it does not explain it in all; for sometimes, notwithstanding the pains are of a violent and persistent character, no atrophy is observed, whilst in others atrophy occurs though the pain is so slight as not to incapacitate the patient from using the limb. Now, M. Nothnagel considers we have no right to assume the presence of any disease of the so-called trophic nerves until the existence of these nerves has been demonstrated. According to his observations, made on thirty patients affected with sciatica, of whom five suffered from atrophy, and four of these were complicated with vascular cramp, he believes he is justified in concluding that in the greater number of cases the atrophy accompanying neuralgia may be referred to coincident affection of the vascular nerves. It is impossible to doubt that, so far as these nerves influence the diameter of the arterial tubes, they must modify the phenomena of nutrition. And since the trunk of the nerve is probably in most instances the seat of the disease, it is not surprising that its effect—an insufficient supply of blood—should be perceptible, not only in the skin, but in the muscles, which form so large a proportion of the mass of the limb.

That we have here a co-ordination of vaso-motor and sensory phenomena, and that the latter is not a consequence of the former, as in other vaso-motor neuroses, follows from the circumstances that the pains in sciatica pursue definite nerve-paths; that they are extremely violent, which is not at all common in angio-neuroses; and that they are not relieved by exercise, which increases the activity of the circulation. The difficulty of explaining how periodic vascular cramp can occasion atrophy is met by M. Nothnagel, firstly, by the statement that in the early stages of the disease the pains are both violent and continuous; and secondly, by a reference to the experiments of Stenson, in which it is shown that the effects of arterial compression do not immediately disappear when the pressure is withdrawn. M. Nothnagel remarks, in conclusion, that he observed vascular cramps in no other cases than in those with which atrophy of the limb was associated.

ART. 37.—*The Morrisonian Lectures on Insanity.*

By Dr. ARTHUR MITCHELL.

(*British Medical Journal*, March 19.)

The last of the course of Morrisonian Lectures by Dr. Arthur Mitchell was delivered in the Hall of the Edinburgh College of Physicians, before a very large audience. The subject treated was the influence of the diseases of early life on the production of insanity. These the lecturer considers to be the most fruitful causes of idiocy and imbecility. Not more than thirty per cent. of the idiocy in this country has an intra-uterine origin. The diseases of childhood not only produce idiocy and imbecility, but they indirectly cause a large amount of the insanity of later life. They injure the whole constitution. They enfeeble the power to resist adverse influences when these occur. They originate predispositions to disease generally, and strengthen inherited predispositions. In

an especial manner they are apt to leave injurious effects on the nervous centres, even when they do not at the time so derange them as to cause positive states of the disease. The three diseases which do most harm are scarlet fever, measles, and hooping-cough. To extirpate these would be a blessing to mankind beyond all weighing. To do nothing more than diminish their frequency would repay any efforts, since it would also diminish, not bodily suffering and disease only, but madness, vice, unproductiveness, poverty, and sorrow. In alluding to the other causes of idiocy, Dr. Mitchell gave the details of a most affecting case which occurred in his own experience. "A healthy, well-nourished boy, nearly two years old, was lying in his cradle when a cock perched on the hood. The boy was at first amused and delighted, and made vain efforts to reach the bird with his hands. These signs of delight, however, began to grow less evident; the child ceased to smile, but his attention continued to be intently fixed on the animal, which in its turn appeared to become interested in the child. Up to this point the little fellow gave no sign of terror: but there was something like it, though still unexpressed, when the cock, stretching his neck, put his head down and looked closely at the boy's face; and when, raising his head again, he flapped his great wings and uttered a shrill cry, the child gave one sharp cry of pain and was instantly convulsed. Three or four fits occurred during that and the next day, but never again. The boy, however, grew up an idiot."

Art. 38.—*On the Treatment of Paralysis.*

By A. D. Rockwell, M.D., of New York.

(*The Medical Record*, December 1, 1869.)

In a paper read recently before the New York Academy of Medicine, "On the Treatment of Paralysis by Electrization," Dr. Rockwell sums up the leading ideas advanced, as follows: 1st. Paralysis is not a disease, *per se*, but is merely a symptom of some disturbance of the central or peripheric nervous system. The treatment of paralysis should have reference not alone to the affected parts, but also to the general condition of which it is the result, or with which it is associated. 2d. Paralysis—throwing aside the toxic, traumatic, and local varieties—is pre-eminently a symptom of exhaustion or weakness of the nervous system. It occurs most frequently among the cultivated and intellectual. It is a malady of the two extremes of life—infancy and old age. 3d. The two cardinal principles of treatment of paralysis are, in the first place, to administer remedies directed to the removal of the cause, that is, the condition of the system, or the local injury of which the paralysis is a symptom; and, in the second place, to restore the tone and nutrition of the affected parts. The first condition is met by the administration of strychnia (internally or hypodermically) when the central nervous system is anæmic; in the use of iodide of potassium, ergot, belladonna, and bromide of potass, when the spine or brain is congested or inflamed; and by the use of general tonics, such as bark, iron, phosphorus, arsenic, and oxide of zinc. The second condition is met by rubbing, shampooing, &c. Electrization, general or localized, with the varying use of the galvanic or Faradic currents, fulfils these indications better than any other method of treatment. It benefits paralysis by virtue of its tonic effects on the nervous and muscular system. 4th. In the treatment of paralysis by electrization, the distinction between the effects of the galvanic and Faradic currents *is of radical and indispensable importance.* An intense, penetrating galvanic current, from 50 or 100 cells of Chester's air-tight battery, will overcome far greater resistance than the Faradic; will produce muscular contractions in paralyzed limbs when the Faradic is powerless, and will also more directly and positively affect the great sympathetic. 5th. Fresh recent attacks of a local character are sometimes very quickly relieved and cured by the Faradic current alone; but long-standing and severe cases, that constitute the majority, demand the varying and persevering use of both the galvanic and Faradic currents for weeks and months. 6th. The prognosis is far more favorable than is commonly supposed. During the past two years, he has treated by

electrization, general and local, and by the varying use of the Faradic and galvanic currents, seventy cases of paralysis, resulting from a variety of causes, and manifesting itself in different parts of the body. Of these seventy cases, 16 were supposed to result from cerebral effusion, causing hemiplegia; of this number 11 suffered from paralysis of the right, and 6 of the left side; 3 of the cases were approximately and 2 completely cured. 3 were very markedly benefited; 3 discontinued treatment after a few visits; in 3 cases only slight amelioration was evident, while 2 failed to receive any benefit whatever.

Four cases of complete facial paralysis, 2 of which involved the right side, 1 of the left, and 1 both sides of the face.

With the exception of the case involving the 7th pair on either side following syphilis, they were all quickly and completely cured. Anæsthesia occurred 20 times. In 9 cases the cure was complete; 9 were approximately cured, while 2 discontinued treatment before any result could be seen. Four cases of complete paraplegia: 3 of which received no benefit whatever, while 1 was approximately cured after a protracted course of treatment. One of the patients died while under treatment.

Eight cases of infantile paralysis, probably of a reflex character. Four of these patients were completely and rapidly cured, and 2 were approximately cured, while 2 received no benefit whatever.

Twelve cases of paralysis were treated, each of which involved but one limb of the body. One of these was approximately, and 5 completely cured; 4 derived marked benefit, while 2 discontinued treatment before any result was noticed.

Four cases of palsy agitans, but in one case only did Dr. Rockwell succeed in obtaining even a slight amelioration of the symptoms. Writer's cramp occurred twice. One patient recovered considerable power in the affected hand, while the other experienced no relief worthy of mention.

Art. 39.—*On Spinal Irritation.*

By William A. Hammond, M.D.

(*New York Medical Journal*, March.)

At a meeting of the Medical Society of the County of New York, held January 17, Dr. Hammond read a very valuable paper upon *Spinal Irritation.* The following are some of its chief points:—

After alluding to the distrust experienced by several distinguished writers, and shared by a large part of the profession, as to the existence of an independent affection which may properly be called "spinal irritation," the speaker stated emphatically his own conviction that there is such a disorder of the spinal cord, by no means rare or unimportant, and no more to be confounded with hysteria or the various other affections which it may simulate, and to which its symptoms have so often been referred, than with organic disease of the cord. He carefully reviewed the literature of the subject, giving a *résumé* of the more important facts and opinions advanced concerning it, from the introduction of the term by Dr. C. Brown, of Glasgow, in 1828, down to the present time. He then gave his own views, based upon a study of one hundred and twelve cases occurring in his private practice, eighty-three of which had been fully recorded, and twenty-nine less completely.

Symptoms.—(*a*) Centric symptoms: 1. Tenderness at one or more points over the spinal column, increased by pressure. This symptom Dr. H. regards as invariably present, although sometimes developed only by careful examination, and occasionally appearing only several moments after the pressure is applied. Any case which does not exhibit it he excludes from the category of spinal irritation. Dr. Austin Flint and some others think it may be absent in exceptional cases. The tenderness varies in character from a dull ache, seated in the deeper tissues and developed by strong pressure, to a lancinating pain, seated in the skin and subcutaneous areolar tissue, and excited by slight pressure. It varies in degree from a slight discomfort to a hyperæsthesia, render-

ing the touch of the clothing insufferable. It may be limited in extent to the spot under pressure, or the pain may be propagated along the spinal nerves. The seat of the tenderness is most frequently the dorsal region, but may be the cervical or the lumbar, and it may extend over the whole spine. Each location has its characteristic eccentric symptoms. 2. Pain in the cord. The tenderness above described was external to the vertebral canal. The pain now spoken of is in the cord itself, and therefore cannot be excited (unless in a reflex way, through the former) by pressure on the spinous processes; but it may be excited by percussion and by motion of the spinal column. The pain is commonly felt near the point of external tenderness, but may be distant from it. It was present in one hundred and nine of Dr. Hammond's cases.

(*b*) Eccentric symptoms. These constitute the most noticeable ones, and vary in accordance with the part of the cord irritated. Among those occurring in Dr. Hammond's cases are the following, under their respective regions: 1. *Cervical irritation:* Vertigo, headache, tinnitus aurium, visual disturbance, sense of frontal constriction; tenderness of scalp; mental aberration (more or less marked in every case); insomnia, or excessive somnolence; neuralgic pains and motor disturbance in parts deriving their nervous supply from the affected region—in scalp and face, if this were the upper cervical; in upper part of chest and upper extremities, if it were the lower cervical; nausea and vomiting, but *not* gastric pain. 2. *Dorsal irritation:* Gastralgia (in every case), gastric flatulence, acidity, nausea and vomiting, pyrosis; palpitation, cardiac oppression, syncope; dyspnœa, cough; intercostal neuralgia, infra-mammary pain (very frequent); motor disorder (spasm or paralysis). 3. *Lumbar irritation:* Neuralgia of lower extremities, and sometimes of back and abdomen; uterine, ovarian, and rectal pain; strangury; tonic spasm of muscles in lower extremities, clonic spasms (occasional in every case), paralysis. The above symptoms are taken from cases where the tenderness was located in but a single region of the spine. In those where it was located in both the cervical and the dorsal region, or both the dorsal and the lumbar, the symptoms presented a combination of those characteristic of each region; and in ten cases, where the whole spine was tender, they were quite irregular in their manifestations from time to time.

Causes.—Sex is the strongest predisposing cause, ninety-three of the one hundred and twelve cases being females. Age has its effect, fifty of eighty-three cases being between fifteen and twenty-five years. Hereditary influence was ascertained in some instances. The exciting causes are often impossible to fix. Among those determined in the cases reported, are mechanical violence, sexual excesses, mental fatigue and anxiety, innutrition, abuse of alcohol and of opium, exhausting diseases.

Pathology.—The essential pathological condition in this affection Dr. Hammond considers to be anæmia of the cord, and he gives *in extenso* his reasons for this opinion. Other writers have attributed the spinal irritation to congestion, inflammation, and many other conditions. That anæmia may cause the irritability is shown by analogy, and that local anæmias may be produced is explicable with our present knowledge of the vaso-motor function of the sympathetic. The irritation thus established would seem also to have a secondary influence upon the sympathetic, resulting in the visceral disturbances that constitute so important a feature of the disease. The well-known laws of reflex action suffice to explain the effects of pressure, percussion, &c., and the aberrations of sensation and mortality.

The *diagnosis*, after rejecting all cases which fail to present the vertebral tenderness, lies between this affection and the other spinal diseases which in their earlier stages, may resemble it—chronic myelitis, meningitis, and congestion. An early and correct diagnosis is of the greatest moment as a guide to treatment, the indications for which, in spinal irritation, are quite the reverse of those in the other affections. In a matter of such vital consequence we shall not attempt the imperfect abstract our limits would compel, but refer the reader to the paper itself.

The *prognosis* is favorable, all cases being alleviated by persistent treatment, and nearly all being ultimately cured.

Treatment.—The indications are four: "1. To remove the cause; 2. To improve the general tone of the system; 3. To increase the amount of blood in spinal cord, and improve the nutrition of this organ; 4. To set up a counter-irritant action in the vicinity of the disordered region of the cord." The first indication speaks for itself. The second is met by tonics (as iron, quinine, zinc, cod-liver oil), and especially by alcoholic stimulants. The third by strychnia, phosphorus, phosphoric acid, opium, heat to the spine, the recumbent posture, and, above all, the direct galvanic current scientifically applied. (The induced current also is of service applied to the affected muscles, where paralysis is present.) Of counter-irritants, blisters and dry cups are to be preferred to antimonial ointment. Wet cups or leeches are inadmissible.

The paper concluded by reports of illustrative cases.

ART. 40.—*Tetany or Remittent Tetanus.*

By WALTER MOXON, M.D.

(*Guy's Hospital Reports*, vol. xv.; and *British Medical Journal*, March 19.)

Dr. Moxon gives us a suggestive paper, with notes of a well-marked case of this complaint, which is familiar to the readers of Trousseau. All of us who have seen much of the diseases of children and young patients—especially females—must have witnessed many cases of carpopedal spasms, with tetanic or spastic rigidity of the jaws and muscles of the spine and trunk. Dr. Moxon points out their similarity to the symptoms of ergotism. We cannot but think, however, that it is the vice of a purely clinical nomenclature of diseases, of which Dr. Moxon (as we understand his other paper) is so much enamored, that it associates similar symptoms arising from utterly dissimilar causes: for, in one case of tetany, a child may have general tuberculosis; in another, a married woman may be suffering from puerperal lesions; and in a third, the real cause may be what Dr. Marshall Hall called "temper disease." We have seen one such case where similar symptoms were always induced by a girl being set to scrub a floor or wash plates and dishes; whilst in a young lady they were asssociated with the phenomena of retarded puberty. In thus writing, we do not wish for a moment to undervalue Dr. Moxon's interesting report; and it is very satisfactory to learn that in his little patient the bromide of potassium in five-grain doses proved completely successful in removing the spasms.

(B) CONCERNING THE RESPIRATORY SYSTEM.

ART. 41.—*Observations on the Treatment of Certain Complications of Hooping-cough by Means of the Oil of Turpentine.*

By BEDFORD BROWN, M.D., of Alexandria, Va.

(*American Journal of the Medical Sciences*, January.)

Probably no other drug exerts so prompt and universal an influence over the entire secernent system of membranes, as sudorific, diuretic, expectorant, and alterative, as the oil of turpentine. These peculiar powers of the remedy render its action particularly applicable to the treatment of the grave forms of hooping-cough, the more dangerous complications of which affection are, with the exceptions of pneumonia and inflammation of the cerebral substance, generally confined to the mucous surfaces or serous membranes of the brain.

It will be found that torpidity of the renal functions is a marked and important feature of all the more serious forms of this affection. The action of the turpentine, under these circumstances, is that of a decided but safe diuretic, often producing a copious flow of limpid urine to the manifest relief of the general symptoms, whether febrile or irritative.

On the morbid states of the bronchial mucous membrane in hooping-cough, the remedial influence of the turpentine is that of a soothing, but active expec-

torant, reducing inflammatory action, tranquillizing irritation, and diminishing copious and exhausting discharges.

Over the varied irritations and inflammations of the vast mucous tract of the alimentary canal, which accompany hooping-cough so tenaciously during the hot and malarious seasons, the action of the oil of turpentine is the most permanent in its corrective influence of any other agent in the knowledge of the writer.

The morbid complications of this affection to which the turpentine treatment is more particularly adapted are infantile remittent or gastric fever, a peculiar irritative form of continued fever, bronchitis, hæmoptysis, convulsions, dysentery, and enteritis.

Infantile Remittent Fever.—During the prevalence of hooping-cough, particularly in the hot season, in many cases, an irritation or inflammation of the alimentary mucous membrane is exceedingly liable to arise, attended with serobilious or mucous discharges, which at certain stages of such cases passes into a train of constitutional derangements characterized by excessive tympanitis, fever of a low remittent type, exhausting perspirations during the remission, general prostration, muttering delirium, singultus, loaded tongue, and scanty urine. In relieving this train of symptoms the oil of turpentine has proved decidedly efficient.

Bronchial Affections.—In the advanced stages of certain cases of hooping-cough, a subacute form of bronchial inflammation occurs of an exceedingly obstinate character, attended with very copious bronchorrhœal discharge, remittent fever, emaciation, and nocturnal perspirations, frequently so free as to resemble those of hectic fever. The mucous discharge in these cases is so excessive as to endanger the lives of the very young and feeble by sudden asphyxia, while in others the exhaustive process is gradual but progressive. In this class of cases bronchial dilatation, emphysema, and permanent thickening of the mucous membrane are found. For relieving this most obstinate form of bronchial affection, the steady and persevering use of the oil of turpentine has never failed in Dr. Brown's own hands.

Continued form of Irritative Fever.—In malignant epidemics of hooping-cough, this form of fever is not unfrequently met with. Its leading characteristics are, continued fever, temperature ranging from 102° to 107°, with but little diurnal variations, progressive and great emaciation, an unvarying dry and husky skin, suspension of the bronchial secretions, frequent pulse, constant and busy delirium, constipation, retraction of abdominal walls, inordinate erethism of the nervous system, vigilance, dry and glazed tongue, and scanty urine. This is not the enteric fever of Louis, for it is wanting in its specific local lesion. Neither is it dependent on local inflammatory action, but apparently is due to the poisonous influence of the peculiar infection of pertussis aided by epidemic influences. In restoring the secretions, and relieving the febrile and nervous excitement, the oil of turpentine here, as in the preceding instances, has been efficient.

Hæmoptysis.—Hæmoptysis, if not associated with tubercle, can usually be controlled by the turpentine treatment.

Cerebral Complications.—In congestive and inflammatory affections of the brain the condition of the renal functions will usually be found torpid, occasionally nearly suppressed here as in other instances. To relieve this difficulty the turpentine is the most active agent. When given in these affections in combination with the bromide and iodide of potassium in quantities sufficient to produce decided stimulus to the urinary functions, it constitutes the most successful treatment with which the writer is acquainted. Finally, the turpentine may, under certain circumstances, be combined with cathartics, other diuretics, mineral or vegetable, expectorants, or sedatives, with advantage, according to the particular requirements of the case.

Art. 42.—*On Pleuritis.*

By James R. Leaming, M.D.

(*The Medical Record*, December 1.)

At a meeting of the New York Academy of Medicine, October 7, 1869, Dr. James R. Leaming read a paper upon pleuritis.

He spoke of the great frequency of the disease, and of the constantly recurring evidences, both in the autopsy room and under the stethoscope, of its subacute form having existed unrecognized, though not the less potent for ill in crippling the lung by adhesions, thereby permanently lowering the patient's vitality, and acting as a determining cause and powerful ally of tubercular phthisis.

After detailing the symptoms of acute pleuritis, the speaker said that "from the beginning it is accompanied with congestion of the lungs, and, unless aborted by heroic treatment, becomes pleuro-pnuemonia. Indeed, it is owing to the pulmonic complication that the symptoms are so violent." Even before the appearance of these rational symptoms, careful auscultation would discover signs of its approach, in the muffling, by congestion, of the respiratory murmur, and in the slight jar produced by the dryness of the pleural surfaces. "The disease once established, and lymph thrown out upon the pleural surface, and exudative matter into the true respiratory system of the lungs, with effusion of serum into the cavity of the pleura—the activity of the rational signs subsides, . . . but some of the physical signs remain. In three or four weeks the exudative matter will have been resorbed or expectorated, the serum in the pleural cavity will have disappeared, and the lymph alone will remain to cause thickening of the pleura or adhesions, to be slowly removed by time."

The speaker dwelt upon the symptoms and pathology, to give force to his views of treatment. Immediately upon the sudden invasion of the acute disease, was "the time for vigorous treatment, to arrest this inflammation before lymph is thrown out to damage the lung by adhesions—general bleeding, cupping, or leeching, to be followed by a large dose of calomel." This dose must be large—twenty, thirty, forty grains, according to circumstances—not for its purgative, nor yet for its constitutional effect; the former was undesirable, the latter disastrous; but "to produce a profound impression upon the great organic nervous system," which would seem to have lost its wits, and which nothing would bring to its right mind like the sedative dose of calomel. One vigorous blow, and the work was done. Or, if the stitch and the congestion were not thus at once relieved, a large fly-blister and a few days' rest would restore the patient to perfect health, and leave the lung undamaged by adhesions. But if nature had been left to struggle alone for a few days, till the disease had gained the mastery, and effusion and exudation taken place, then active treatment would be only harmful. We must then avoid all depressing agents, especially blisters (which would be likely to cause further exudation), and simply sustain nature by special care for the digestive function.

Next was given the clinical history of subacute pleuritis, with its insidious approach and silent effusion, the patient hardly aware of any illness, or referring his increasing *malaise* to anything but its proper source. Such cases, as above mentioned, might go through their whole course, and the disease be unsuspected. Physical examination alone could detect it with certainty; and early detection was the more important, in order to avert the terrible sequela, tubercular consumption, which the speaker thought would be generally admitted as frequent. His own experience had led him to attribute a majority of the cases of consumption to pleuritic adhesions as a determining cause.

How prevent these adhesions? or how, when formed, prevent their worst effects? Nature does the first by keeping the pleural surfaces apart, by means of the effused fluid, till the lymph has become so changed that strong adhesions are less likely to form. We should follow her, and not attempt removal of the fluid till this danger is over. Too often the opposite course is taken, and with

the saddest results, not only from thwarting nature's conservative action, but also from the effect on the kidneys and digestive organs of the blisters, diuretics, and drastic cathartics employed. If, after a proper time, the serum be not absorbed, we should resort, not to medicine, but to the trocar.

The adhesions once formed, the patient must be sustained and placed under the best hygienic conditions. Rubbing the chest with turpentine or the compound iodine ointment, and the long-continued use of muriate of ammonia, were very well; but of far greater moment was "the habit of steadily filling the lungs with air, whilst raising the arms above the head; then, holding the breath, to bring them downwards and outwards till they press upon the sides, before allowing the breath to escape. This fills the lung to its utmost capacity, which it is difficult to do in any other way." It tends to elongate the adhesions, and, in so far, to relieve the crippled lung; besides largely increasing the vital capacity, and so diminishing tubercular tendencies.

In adhesions allowing some motion of the lung, auscultation would discover a peculiar soft, subcrepitant sound, like that of tearing flannel, produced by the stretching of the fibrinous bands—all the crackles being in one plane, and moving in one direction. If the lung had little or no motion, though this sign might be absent, yet "the broncho-respiratory murmur would come to the ear in inspiration, altered, harsh, and jarring; the same sign would occur in thickening; and the percussion-note would be sonorous, flat, and wooden."

Intercurrent pleuritis, when occurring in connection with cardiac or renal disease, showed no great tendency to plastic deposit. That attendant upon tubercular phthisis, on the contrary, was apt to form strong adhesions. It was always circumscribed, often quite narrowly; and the exudation of lymph must be regarded as conservative, acting as a derivative from the inflammatory process in the lung, enforcing rest of the part, and preventing perforation of the pleura and its serious consequences. It should not, of course, be interfered with.

Circumscribed pleuritis might be diagnosticated by the dull space where the respiratory sounds are absent, surrounded by a ring of subcrepitant râles, denoting stretching of the adhesions. Where a complication of pneumonia, it might without care be mistaken for tubercle. Occasionally, however, the ring of adhesions might form a small sac between the opposed pleural surfaces; and this becoming filled with fluid instead of deadening the respiratory sounds, might transmit them with increased resonance; and, if in the neighborhood of a distended colon, it might give a tympanitic note on percussion. The speaker related cases in illustration of this fact, which he attributed to the facility with which "compressed" fluid receives and conveys sonorous vibrations.

Dr. Chamberlain asked Dr. Leaming what indications he would consider warranted paracentesis, while the effusion was still supposed to be non-purulent.

Dr. Leaming thought a considerable time should elapse before resorting to the operation—from six weeks to two, or even three, months, if the patient's strength would allow. But we must watch this, for the continuance of the fluid in the chest tended to depress vitality.

Dr. Chamberlain had been surprised at the reported successes of Professor Dupré, who practised very early paracentesis in all cases of pleuritic effusion, whether the amount of fluid were large or small. He had himself supposed a certain persistence of the effusion, in spite of other measures, necessary to justify puncture. One of the means he had found most useful in producing resorption was the continuous application of hot fomentations—flannels wrung out of hot water and covered with oiled silk. He had considered them particularly suited to those cases of pleural effusion dependent not upon structural alteration in the pleural membrane, but upon a simple disturbance of the balance between exhalation and absorption, as in cardiac hydrothorax.

Dr. Leaming said that Dr. Bowditch, of Boston, who introduced the treatment by early puncture, had abandoned it, as he found that either the fluid returned or he got adhesions.

Dr. Peaslee had been much interested in the cases of Professor Dupré, who

claimed to have jugulated pleurisy by early paracentesis. He thought this practice based on correct principles, and not so contradictory to Dr. Leaming's views as might at first appear. Why should not acute pleurisy be thus aborted, just as is acute orchitis by tapping the tunica vaginalis? In every case of true inflammation of a serous membrane (not of passive effusion, as in hydrothorax), the fluid poured out was an exudation of liquor sanguinis, not a simple effusion of serum. In the non-Inflammatory serous effusions there was no possibility of the formation of false membranes, for there was nothing to form them of. But in the true inflammatory exudation we had the material for adhesions; and if it could be removed at once, before its fibrin had time to coagulate, then no false membrane could be formed; for the inflammation exhausted itself in the exudation, and unless this were alighted up anew, the pleura could pour forth no more fibrinous material. But if you tapped later, you got nothing but serum; you left all the fibrin behind, and left the opposed surfaces in the most favorable position for it to glue them together. If you delayed your tapping till the exudation had existed a week, it was too late to prevent adhesions, and must be still further delayed, as Dr. Leaming had said, as long as the patient would bear it; but if you could tap within twenty-four hours, the evil might be entirely prevented.

ART. 43.—*Tapping of the Chest in Acute Pleurisy.*

Under the care or Dr. MURCHISON.

(*The Lancet*, January 1.)

The patient in this case was a boy, aged seven years, whose chest was tapped on the twelfth day of an attack of acute pleurisy of the left side. There was a large effusion of serous fluid, which had forced the heart over to the right side, where its apex could be made out between the fourth and fifth ribs. The indications for the operation were a frequent, feeble, and irregular pulse, and great dyspnœa. Dr. Murchison stated that in cases of extensive pleuritic effusion, tapping is performed for several reasons. By an early removal of the serous fluid, the formation of pus in the chest and empyema may be prevented; the lung also has a better chance of recovering itself and of expanding if the surrounding fluid be removed before the solid exudation has formed firm adhesions. The main object of the operation, however, is the restoration of the position of the heart, as there is far greater danger in cases of pleuritic effusion, especially when the left side of the chest is affected, of the patient dying from sudden syncope than from asphyxia. The boy did very well after the operation; the left lung speedily expanded, and healthy sounds could be heard over nearly the whole of the chest. There was no tendency to a reaccumulation of fluid; and on December 19th, the dulness, on percussion, was limited to an extent of two inches over the base of the left lung. The progress of this case to complete recovery has, however, been retarded by the manifestation of two unfavorable symptoms—a high evening temperature, reaching to 102.6° F., and occasionally to 103° F., and frequent profuse sweating. These symptoms, according to Dr. Murchison, may be attributed to one of two causes: either the fluid left in the chest has become purulent, or there may be a deposition of tubercle in the lung. The latter view, however, seems to be negatived by the healthy character of the lung-sounds over the left as well as the right side of the chest.

ART. 44.—*A Case of Empyema treated by Paracentesis, and subsequently by Blistering; Cure.*

Under the care of Dr. ANDREW CLARK.

(*The Lancet*, January 1.)

The success which attended the treatment renders the following case well worthy of record. We are indebted to Mr. Grubb, the resident medical officer of the London Hospital, for notes.

The patient was a weakly boy eight years of age, who, six months before admission, had had an attack of scarlatina, which was followed by dropsy lasting for six weeks. One week before admission the boy again suffered from dropsy. When first seen by Dr. Clark he presented the following symptoms: Anasarca; great dyspnœa; a short, dry cough, without expectoration; a flushed face; and an inability to lie on the left side. The heart was displaced to the left; no cardiac bruits. The lung-sounds on the right side were very feeble, and all the signs were present of considerable effusion into the corresponding pleura. The urine was very scanty, smoky, and contained much albumen; specific gravity 1015. The pulse was 106, and the respirations 36 in the minute; temperature about 102°. There was a slight amount of ascites.

The patient was first treated by tincture of the perchloride of iron, spirit of nitric ether, digitalis, and bitartrate of potash; and for a time was put on a daily allowance of three ounces of gin. The breathing at first was relieved by this treatment, and an increased quantity of urine was passed; but at the end of the first week after the patient's admission into the hospital there was great dyspnœa and restlessness. On the tenth day the right side of the chest was tapped, and forty ounces of purulent fluid withdrawn from the pleura. After this operation the breathing was much quieter, and the general condition of the patient improved. About the middle of June, two weeks after the paracentesis, the old symptoms returned, with all the physical signs of fresh accumulation of fluid on the right side of the chest. On July 1st a blister three inches square was applied over the seat of dulness. Under the repetition of this local treatment, and the administration of digitalis, bicarbonate of potash, iodine, and steel, and subsequently of cod-liver oil, the patient gradually improved; the effusion disappeared, and the respiratory sounds returned on the right side of the chest. On December 2d the boy was discharged as cured.

ART. 45.—*On Hæmoptysis.*

By GEORGE JOHNSON, M.D., F.R.C.P.

(*The Lancet.*)

Dr. Johnson enumerates the causes of hæmoptysis as follows: (1) Tubercles in the lungs; (2) Disease of the left side of the heart, with incompetent mitral valve, or disease of the right side of heart. (3) Bronchial hæmoptysis is found in asthma, and active congestion of the pulmonary and bronchial vessel causes it. In pneumonia and bronchitis it sometimes comes on. (4) Primary cancer of the lung. (5) Emphysema. (6) Aneurism of the aorta; (7) Deterioration of the blood, as in purpura, and in uræmia and poor living. (8) Hæmoptysis may be vicarious of menstrual discharge, or be idiopathic. Dr. Johnson thinks that hæmoptysis may sometimes cause phthisis, as Niemeyer will have it. The treatment he recommends is rest and sucking of ice, or local application of ice, gallic acid in ten grain doses every three hours, or the liquid extract of ergot in half-drachm doses. Oil of turpentine in 20 drop doses, or the inhalation of turpentine vapor is recommended. Lastly, an emetic of sulphate of zinc or ipecacuanha and antimony is advised.

ART. 46.—*Case of Collier's Lung.*

Autopsy and Remarks by Mr. T. P. PICK, of St. George's Hospital.

(*The Lancet*, January 29.)

Considerable doubt has sometimes been raised as to the origin of the black deposit in the lungs of coal-miners and others engaged in working among coal. In the following case, however, both from the microscopic appearances and from the large amount of amorphous silica obtained by incineration of the lung, there can be little doubt that the condition of the lung was due to the inhalation of finely pulverized coal-dust into the bronchial tubes, and thence into the air-cells. We are indebted to Mr. T. P. Pick for the case.

John B——, aged sixty-four, had originally been a clay-pipe maker by trade, but for some time had abandoned this occupation, and had been engaged as a coal porter. During the last three years he had been employed in filling balloons with gas at Cremorne. When admitted into St. George's Hospital (under the care of Dr. J. W. Ogle), he stated that during the last six months he had become very rapidly emaciated, and had suffered from constant sickness. For two months he had had considerable swelling and œdema of the legs. On examination, there was found to be a hard solid tumor, the size of a cricket-ball, in the epigastric region. From the presence of this, the constant sickness, and the rapid and extreme emaciation, there was no difficulty in arriving at the diagnosis that he was suffering from malignant disease of the stomach; and this subsequently, at the post-mortem examination, proved to be the case. The only symptom referable to the lungs was extreme dyspnœa; and, unfortunately, owing to the very exhausted state in which the man was, no careful stethoscopic examination of his chest was made. He gradually sank, and died three weeks after admission.

At the post-mortem examination, made by Mr. Pick, a quantity of clear, watery fluid was found in both pleural cavities. The pleura covering the surface of the lung was thickened, and from its inner surface were given off a number of fibrous bands, which traversed the lung-tissue in every direction. The lungs felt firm and solid, but not uniformly so; and upon rolling a portion between the finger and thumb a number of small rounded bodies could be felt, resembling somewhat the sensation experienced by the presence of miliary tubercle. Upon section, a quantity of black fluid could be readily squeezed out, which under the microscope presented a multitude of granules of black pigment. There was a slight amount of emphysema of the anterior margins and apices of both lungs. The structure of the lung was of a very peculiar mottled appearance, the tissue being of a dark blue, or bluish-black color, studded throughout by little black masses, varying from the size of a millet-seed downwards. These felt like little hard rounded masses under the finger. Upon making a microscopic examination of a portion of the lung at a part where there were none of these little deposits, the air-cells were perfectly normal in appearance, with the exception that on their walls was accumulated a quantity of amorphous black pigment in varying proportions. This deposit appeared to have taken place within the interior of the cells, for here and there one was found completely filled and choked up by the material. Upon examination of one of the little rounded masses, it was found to consist of a deposit of minute black granules, irregular in size and shape, and appeared to be formed by a coalescence of a cluster of air-vesicles by destruction of their surrounding membranes, and a blocking up of the little sac or cavity thus formed with those pigmentary granules.

A portion of lung the size of a walnut was incinerated, and the reddish-colored ash was fused with carbonate of soda, and treated with hydrochloric acid in the usual way. The residue, weighing about two-fifths of a grain, consisted of an almost white, amorphous powder, which was evidently silica, plainly indicating the presence of coal-dust in the lungs. The ash produced by incineration of the lung also contained traces of manganese and iron. The bronchial

glands were for the most part completely degenerated by the same black granular deposit.

With regard to the other organs, it need only be stated that the diagnosis formed during life was correct, inasmuch as the pyloric orifice of the stomach was found to be extensively infiltrated by the scirrhus variety of cancer. There were also secondary deposits of cancer in the liver and pancreas.

Remarks.—This case is the more interesting, inasmuch as the man did not die from the effects of the disease in the lungs, but from other causes entirely remote. Nor, in fact, did he appear to have suffered from the usual symptoms which attend this form of disease. The case, however, bears out the remarks of Dr. Greenhow,[1] that "the amount of disturbance of the general health in constitutionally sound subjects is much less than in those who are the subjects of pulmonary disease arising from constitutional cachexia." The only symptom noted was extreme dyspnœa, and this is described by the same observer as "a very marked feature of such cases, and is sometimes so extreme as to prevent active locomotion, even while the patient is able to continue his occupation." But though the patient died of another cause, and did not present any symptoms that the disease had made any great progress, still a very marked change was found in the lungs after death. For though we were able to obtain for microscopic examination certain parts where the disease was in an early stage, and therefore more available for this purpose, still there were large portions where the deposit had made great inroads, and had destroyed large tracts of breathing surface. In fact, if we had found in any specimen of lung the same amount of tubercular matter as we did of this black coal-dust deposit, we should have been quite satisfied that there was sufficient lesion to account for death. The microscopic examination of the least affected parts was most satisfactory, as we were quite able to assure ourselves that this deposit had taken place *upon* the walls of the air-vesicles themselves, and was therefore due, in all probability, to the inhalation of the material, whatever it was; while the chemical analysis, imperfect as it was, was nevertheless sufficient to prove that this material was coal-dust, from the very large amount of silica. The occupation of the man sufficiently accounted for the presence of this coal-dust in the system.

Art. 47.—*The Indications for Tracheotomy in Cases of Laryngitis and Diphtheria.*

By George Johnson, M.D., F.R.C.P., Physician to King's College Hospital; Professor of Medicine in King's College, London.

(*British Medical Journal*, January 15.)

When the symptoms of laryngitis, whether in a child or in an adult continue and increase and threaten life, or when, in a case of diphtheria, the extension of the disease to the larynx causes the same threatening symptoms, we ought to have recourse to tracheotomy; and by this operation we may not unfrequently save a life which must otherwise inevitably be lost. The operation is more frequently successful in cases of simple laryngitis than in diphtheria—for the reason that, in the latter disease, the exudation often extends into the trachea and bronchi; so that an artificial opening in the windpipe does not counteract the cause of the apnœa. It is more frequently successful in adults than in children, and more frequently in older than in very young children. In adults, Dr. Johnson has rarely failed to save life by the timely performance of tracheotomy; but in children he has rarely succeeded. In very young children the trachea is so small that it is scarcely possible to introduce a metal tube: and the operation is therefore impracticable. The youngest child that Dr. Johnson has seen saved by tracheotomy was one about two years old, who, while suffering from inflammatory croup, was operated on by Sir W. Fergusson.

Excluding those cases in which the operation is impossible on account of the

---

[1] *Path. Soc. Trans.*, vol. xvi. p. 61.

small size of the trachea, the principles which should guide us in our determination to resort to tracheotomy are the same, whether the patient be a child or an adult.

In general terms then it may be stated that, when, in spite of prompt and judicious treatment, the obstruction in the larynx and the consequent dyspnœa continue and increase, and when there is commencing lividity of the lips and face, the time for tracheotomy has arrived. When a laryngoscopic examination is practicable, and when, by this means, we discover such an amount of structural change within the larynx as must obviously require several days, and perhaps even weeks, for its removal, the necessity for the operation will be still more apparent.

In considering the question of tracheotomy, it must continually be borne in mind that, if the operation be too long deferred, although it may remove the distressing sense of constriction in the throat, it will not save the patient's life. The reason is, that a prolonged partial apnœa gradually induces a condition of lung and of pulmonary artery which is irremediable and fatal.

The order of events appears to be this: The obstruction in the larynx limits the supply of air to the lungs; the blood in the pulmonary capillaries is imperfectly aërated; and some partially aërated blood passes on into the systemic arteries. At the same time the minute pulmonary arteries, by their contraction, lessen the supply of blood to the pulmonary capillaries in proportion to the limited access of air. This contraction of the minute arteries is doubtless called into action by a nervous influence transmitted from the capillaries. A message is telegraphed to the arterial stopcocks, requiring a diminished supply of blood so long as the respiratory changes are partially suspended. The blood therefore accumulates in the trunks of the pulmonary artery, in the right side of the heart, and in the systemic veins. The distension of the superficial veins renders the lips and the skin more or less livid; while the retrograde engorgement of the bronchial veins and capillaries, which belong to the systemic venous system, results in a serous effusion into the bronchial tubes. This serous exudation gravitates towards the bases of the lungs, filling the air-cells and smaller tubes, and thus still farther impeding respiration. Meanwhile the slowly moving, partially stagnating blood in the pulmonary artery becomes more and more viscid, and at length partially coagulates. Hence, on *post-mortem* inspection, fibrinous coagula, which had evidently been in process of formation for several hours before death, are often found in the pulmonary artery. A state of partial apnœa, therefore, exceeding a certain limit in degree and in duration, results in œdema of the lung, and coagulation of blood in partially obstructed pulmonary artery; and these changes in the lung and in the artery may alone suffice to destroy life. Tracheotomy, then, to be successful in rescuing the patient from fatal apnœa, must be resorted to before the lungs have become highly œdematous, and before the blood in the pulmonary artery has lost its fluidity.

When the laryngeal obstruction has been of recent origin and rapid in its course, it is the more likely that life may be saved by the prompt performance of tracheotomy; but when urgent dyspnœa has been of long duration, there will always be reason to fear that the lung and the blood in the pulmonary artery may have passed into the condition that Dr. Johnson has described.

We may sometimes obtain more positive evidence as to the œdematous condition of the lungs. There may be dulness on percussion over the lower lobes of the lungs, and a fine moist crepitation over the same extent. As a rule, however, when there is great obstruction in the larynx, auscultation teaches us little as to the condition of the lungs. The loud laryngeal stridor completely masks the pulmonary sounds, which besides are very feeble in consequence of the small volume and force of the tidal air in the lungs.

We may suspect that the blood in the pulmonary artery is coagulating when, with increasing dyspnœa, there is a combination of pallor and lividity of the skin and lips, with extreme feebleness of the pulse. The lividity is a result of over-distension of the systemic veins, while the pallor and the pulselessness are due to a corresponding emptiness of the arteries; the venous fulness on the one

hand, and the arterial emptiness on the other, being direct results of the obstruction in the pulmonary artery.

Dr. Johnson has nothing to say as to the mode of performing the operation of tracheotomy. That is a purely surgical question with which he does not meddle. But he must insist upon the importance of keeping the air of the room warm and moist so long as the patient has to breathe through the opening in the trachea. A neglect of this precaution might result in an attack of bronchitis or pneumonia.

Another point which deserves notice is, that while a patient is breathing through the artificial opening, so much is the reflex excitability of the larynx lessened, that during deglutition liquids sometimes enter the larynx, and then escape through the canula. This may to some extent be prevented by directing the patient to close the tube with his finger during the act of deglutition.

A gentleman suffering from acute laryngitis, whom Dr. Johnson attended with Mr. Heckstall Smith and Dr. Allfrey, and who was rescued from impending suffocation by tracheotomy performed by the latter gentleman, while he was breathing through the tube, one day got a piece of bone into his larynx from soup that he was drinking. The foreign body caused him much annoyance until it was expelled by a cough. The patient completely recovered, and returned to his work in India. The lesson taught by this and other cases is that, while the patient is breathing through an artificial opening in his windpipe, unless deglutition be performed with care the food may "go the wrong way," and either lodge in the larynx, or passing through the larynx, it may enter the bronchial tubes.

Art. 48.—*The Local Treatment of Croup.*

By Adolph Weber, M.D.

(*Medical Times and Gazette*, January 22.)

A knowledge of the power possessed by lactic acid to dissolve fibrinous exudations, induced the author to try it in cases of croup. At first he used it only after the operation of tracheotomy, partly with a view to keep the tracheotomy tubes clean, and partly hoping that the lactic acid might affect the membranes which extended downwards into the bronchi. The results were so favorable in both respects that he proceeded to try it in severe cases of croup before having recourse to tracheotomy. Since then he has not once had occasion to operate, and has not lost a single case of croup. In some very severe cases in which inspiration and expiration were equally obstructed, and the condition of the fauces indicated an abundant fibrinous exudation in the trachea, the difficulty of breathing was completely relieved within seven to ten hours of using this remedy, and two or three days after no trace of the local affection remained.

During the treatment there was not, as is generally the case, an expectoration of tough membranous sputa, but gradually the whistling, barking inspiration and expiration were replaced by distinct rattling noises; the voice, before quite suppressed, began to assume a hoarse timbre, and considerable quantities of loose white frothy phlegm were expectorated during the fits of coughing, until at last the struggle for breath quite ceased, and the disease assumed more the character of a catarrhal affection of the throat.

The treatment consists in the local application of the remedy to the windpipe by means of inhalation. The patient is made to inhale a solution of lactic acid (15 to 20 drops in half an ounce of water) at first every half-hour, and afterwards, when the respiration improves, every hour or every two hours a solution of 10 to 15 drops in half an ounce of water.

The inhalation is discontinued as soon as the dyspnœa has subsided, and to promote expectoration chamomile tea is exhibited.

In using the inhalation care must be taken that the vapor does not affect the eyes or face.

With this treatment was conjoined the internal exhibition of carbonate of soda every half-hour or every hour, which was thought to exert a beneficial effect upon the exudation.

(C) CONCERNING THE CIRCULATORY SYSTEM.

ART. 49.—*On the Signs of Pericarditis.*

By M. NOEL GUENEAU DE MUSSY.

(*Gazette Hebdomadaire*, No. 51, 1869.)

The memoir including the following remarks on the diagnosis of pericarditis has been dedicated by M. Gueneau de Mussy to Dr. Stokes, of Dublin:—

"The labors of Collier, Bouillaud, Hope, and Stokes have rendered appreciable to our means of investigation, in a great number of instances, an affection the diagnosis of which had been regarded by Laennec as constituting an almost insoluble problem. Still, according to the remarks of Dr. Stokes, when one thinks on the very considerable number of pericardial lesions which appear to have their origin in an inflammatory process, as, for instance, the milk patches, the partial or general adhesions, the thickenings of the sub-serous connective tissues, it must occur to him that pericarditis is one of the most common of existing maladies, and one which very often passes unrecognized: sometimes because it is but an episode in a very serious morbid condition, and its proper symptoms are concealed in the midst of more prominent and more urgent functional disturbances; at other times because the phenomena accompanying it have not that clearly defined significance which might favor their being readily traced back to their origin. Thus Stokes has advised the examination of the pericardium in all cases of a febrile character, the nature of which remains doubtful, and which seems to be due to no organic localization and to no apparent pathogenic condition. This advice has been of great service to me more than once, and on many occasions an attentive examination has enabled me to make out pericarditis as the substratum of a febrile condition which might have been classed as a gastric or continued fever, or as the remote cause of some inexplicable exacerbation in the course of an acute disease. In fact, although, as M. Bouillaud has shown, rheumatic fever is of all the acute affections that of which pericarditis is most frequently a complication, still this latter malady is found in the course of several other affections, among which are to be placed in the first line, pleuro-pneumonia, the eruptive fevers, especially scarlatina and puerperal fever.

"In the course of the present year I had an opportunity of observing a woman who, after parturition, presented a febrile condition, the explanation of which was mainly sought for in the generative apparatus, and in whom pericarditis was found, an affection which was soon arrested by appropriate treatment. Last year, in the course of a case of malignant scarlatina, I observed the occurrence of arthritis complicated by pericarditis. I have also seen pericarditis succeed erysipelas. Quite recently in a female patient who, at first sight, presented no other objective symptom than a condition of continued fever, I made out an inflammation of the pericardium which, as it seemed to me, might have been regarded as rheumatic, although independent of any articular complication, because it had been developed under the influence of external conditions such as generally provoke the evolution of rheumatic affections.

"In this memoir I will indicate some new and but little known signs which in obscure cases may serve to clear up the diagnosis of pericarditis. Attention has been directed to the pain developed on pressure over the epigastrium or in the pericardial region. The first has appeared to me to be of more frequent occurrence than the second symptom, and, moreover, presents some interesting peculiarities. Whilst the characteristic pain of diaphragmatic pleurisy has its chief seat at the junction of two lines, one of which is carried along the external edge of the sternum, and the other runs parallel to the inferior edge of the chest in the hypochondriac region, the chief seat of the pericardial pain is at the

costo-xiphoid region; sometimes on both sides of the xiphoid appendage, at others, on one side only, and more frequently on the right than on the left. At the same time, and in the side where this epigastric sensibility is manifested, may be made out in the interval of the inferior attachments of the sterno-mastoid muscle, an analogous pain along the course of the phrenic nerve, as in diaphragmatic pleurisy.

"The physiological explanation of this phenomenon can easily be given: the two diaphragmatic nerves inclosed with a fibrous tissue from the pericardium may receive the impression of the irritation, which, invading the nerve-trunks, is at once transmitted in an ascending and descending direction towards the origin of its branches and towards one of its terminal branches, which corresponds to the costo-xiphoid angle. According as the inflammation is more localized in the right side or in the left of the pericardium, the impression is the more directly received by the one or the other phrenic nerve, this impression being propagated both in a centrifugal and in a centripetal direction. I mention the fact without attempting to determine the mode of propagation. It still remains undecided whether the neurolemma is involved in a process of congestion, or if, on the other hand, there be some abnormal modification of the nerve tissue.

"These anomalies of sensation are revealed only on pressure; they do not constantly manifest themselves from the commencement of pericarditis; in several cases, however, I have observed them even when the other signs of the affection were very obscure, and such as not to enable one to assert a diagnosis. In one case of puerperal pericarditis they were absent: but it must be remembered that in puerperal phlegmasiæ the elements of pain may be wanting, and that the abdominal wall may be pounded without causing the least pain in cases where the peritoneal cavity is filled with pus.

"This morbid sensibility, the seats of which I have just indicated, seems to me to be much more constant than the precordial insensibility indicated by authors; and in cases where the latter exists, it is necessary to inquire whether it be not seated in the intercostal nerves, and thus constitute a phenomenon of reflex sensation analogous to those often pointed out by myself as present in other visceral affections.

"The increase of absolute or relative dulness indicates the presence of an effusion in the pericardium. M. Piorry has with reason insisted on the necessity of practising in succession superficial and deep percussion. Very frequently, indeed, the lungs covers the anterior surface of the pericardium, and deep percussion alone will then enable one to make out any increase in size of the membranous sac. It is necessary to compare carefully, by means of percussion, the two halves of the sternum. In the normal condition they give the same sound. A dull sound over the left half indicates an increase of the volume of the heart or of its enveloping membrane. An appreciation of the tone also is of great importance whenever the volume of the heart or pericardium has been increased; a sharper sound with a tympanic timbre can then be made out in the infra-clavicular and pre-axillary regions on the left side. I have on some occasions even made out this tympanic sound behind at the part corresponding to the pericardium; and Graves states that in one case he was able to hear it below this latter region: he does not, however, speak of the infra-clavicular and pre-axillary regions, where it may be met with with much greater frequency. Without speaking of pleuritic effusions or pulmonary infarctions, where it was noticed for the first time by Skoda, I have observed this sound in hypertrophy of the spleen and in meteorism of the stomach; it may be found more or less marked, I think, whenever the space intended for the lung becomes diminished either by some intra-thoracic lesion, or by the abnormal development of some infra-diaphragmatic organ.

"Auscultation combined with the preceding modes of examination generally bids fair to establish the diagnosis. But still the signs which are furnished by this mode are neither uniform nor constant. The diffusion and variability of bruits is ever one of their distinctive characteristics. This variability is expressed in their seat, and in their timbre; they may be present and disappear according as the layers of the pericardium, covered by neoplasm, come into

contact during the movements of the heart, or as a more abundant fluid effusion keeps them separated. The timbre and tone are changed according to the modifications which the surface of this neoplasm undergoes, and to the energy of the cardiac movements. It is thus that they may be rough or soft, weak or strong. The rubbing or blowing sounds are sometimes preceded by a less characteristic bruit which succeeds the systole, which may be called the *bruit de décollement;* it resembles the noise produced by separating widely the two palms of the hands, slightly moistened and previously applied the one to the other. A slight exudation on the surface of the serous membrane, perhaps even its dryness, suffices for the production of this *bruit de décollement*, which may be commonly met with in the second stage whenever a blowing or rasping bruit exists in the first. When the cavity of the pericardium is occupied by effusion, the abnormal bruits may be wanting; then the normal cardiac bruits are feeble, as if remote, and the impulse of the heart's apex is absent or scarcely sensible.

"The most serious difficulty is the distinction of pericardial bruits from bruits which depend upon a lesion of the endocardium; and the difficulty is the greater since the same morbid action is frequently localized at the same time in both membranes. What I have said above on the diffusion and the variability of pericardial bruits is already an element in the diagnosis, their superficiality is another. When the two orders of morbid bruits exist, an attentive ear may often distinguish them, and one may in certain cases recognize that their points of origin are not seated at the same depth. Dr. Stokes has remarked that pressure exerted upon the pericardial region increases the pericardial bruits. I have met with cases where the contrary took place, and observation has enabled me to reconcile these apparently contradictory results. When the pericardium is dry, an energetic pressure diminishes the extent of the rubbing, and diminishes even the energy of the cardiac contractions, as one may easily find out by examining the pulse. If, on the contrary, an effusion separate the two layers of the pericardium covered by false membrane, pressure upon any point of the pericardial region forces them together and increases the rubbing. These changes in morbid bruits caused by pressure are seldom met with except in pericarditis, and may serve to distinguish the abnormal sounds which can be imputed to this lesion from those which depend upon endocarditis. However, if energetic pressure upon the pericardial region diminishes the energy of the cardiac contraction, one will understand that it may diminish the intensity of the bruits produced by lesions of the orifices. But it is probable that in order to obtain this modification a more energetic pressure, if it be possible, would be required than that which suffices to modify the bruit of the pericardium.

"Changes in position influence in a great number of cases the bruits of pericarditis, but do not affect those of endocarditis. Thus, with slight effusion, if the patient be either seated or lying on one side, it will often happen that the rubbing sounds cease or become more obscure at the dependent parts of the pericardium, whilst at the parts which are relatively more elevated they become developed or are increased.

"It is almost useless to add that the reabsorption of the effusion which coincides with a return of the normal pericardial percussion sounds generally gives rise to rubbing sounds, the appearance of which may serve to confirm the diagnosis.

"When cured, pericarditis in the great number of cases leaves no sign of its course. But still it is not always so. After the reabsorption of a large effusion the precordial wall may become depressed.

"Very extensive or complete adhesion may be manifested by a movement of undulation experienced by the hand applied to the region of the heart.

"Retraction of the epigastric region and of the intercostal space corresponding to the point of the heart have likewise been indicated as signs of this cardiac synechia.

"In certain cases in which the organized neoplastic products have acquired considerable thickness and consistency, they may give rise to rubbing sounds of indefinite duration. The reduplication of the first sound of the heart may, in a certain number of cases, be attributed to a lesion of this kind. Finally, in

a patient whose cardiac bruits represented a kind of measure of three stages, the first interval of which seemed shorter than the second, I found a band uniting the apex of the heart to the parietal layer of the pericardium. I have met with this bruit on other occasions without having had opportunities of verifying the organic condition after death."

ART. 50.—*On Endocardial Ecchymosis in Cerebral Hemorrhage.*

By MM. JOFFROY and CHARCOT.

(*Gazette Médicale de Paris*, No. 5, 1870.)

It is known that in patients who have died from cerebral hemorrhage, besides the effusion of blood may be also found at various parts of the organism suffusions of blood in the form of more or less extensive and more or less deeply colored ecchymotic spots. In cases of this kind ecchymoses are found in the meninges over the cerebral or cerebellar lobes, in the thickness of the epicranial aponeurosis, in the pleuræ, and in the gastric and intestinal mucous membrane.

In two cases of cerebral hemorrhage MM. Charcot and Joffroy observed ecchymotic spots analogous to those just mentioned on the endocardium of the left ventricle.

In the first case these spots existed only over the columnæ carneæ. They were multiple, oval, and scarcely more than a demi-centimetre in extent. In making an incision over them these spots were observed to pass beyond the thickness of the endocardium, and to penetrate for some distance into the cardiac muscular tissue.

In the second case, in addition to these endocardial ecchymoses over the columnæ carneæ, there existed two other very deeply colored small and rounded spots from two to four millimetres in diameter, which were seated on the mitral valve, while over the rest of its extent was retained its yellowish-white color and its state of semi-transparence.

It is evident that we cannot think of explaining these ecchymotic spots by imbibition into the endocardium after death of the black blood filling the ventricle and lying in close contact with its inner surface. The small extent of these spots, their special coloration, their depth extending even into the thickness of the muscle, and their possible situation upon the mitral valve, will not allow of this explanation. It seems, on the contrary, to be a very rational step to join these ecchymoses of the endocardium with those of the meninges, the epicranial aponeurosis, the gastric mucous membrane, &c., and to associate all these effusions of blood under one explanation.

M. Charcot develops this idea by showing by several examples that under the influence of cerebral lesions neuro-paralytic actions take place which may be the starting-point either of simple congestion or inflammation. One may experimentally, as Schiff has shown, produce ecchymotic changes in the stomach and intestine by injuring the optic thalami. In man the same thing may be observed, and M. Charcot has had occasion to direct attention to facts of this kind. He thinks that the cardiac ecchymoses take part in the same series of phenomena. Besides, it is known that cerebral lesions may even give rise to inflammations, and that, under their influence, as after section of the pneumogastric nerve, pneumonia may be observed to arise.

ART. 51.—*Dr. Sibson's Croonian Lectures on Aneurism of the Aorta at the Royal College of Physicians.*

(*The Lancet*, March 26, April 2 and 9.)

LECTURE I.

On the 23d of March Dr. Sibson commenced his lecture with some remarks upon the general character of the symptoms of the disease he was about to speak of, and their great diversity—in some cases absent, in others most grave. Anguish most intolerable and apparently perfect health were alike consistent

with the most deadly forms of the disease. Death might be sudden or gradual, without warning or preceded by the most alarming attacks of "cardiac asthma;" it might be caused by hemorrhage, by cardiac syncope, by suffocation, by starvation, or by coma. The explanation of these varieties was not so much in the character or extent of the central malady, as in the relations of that to surrounding parts.

After a brief glance at the general conditions in an artery which permitted an aneurism to form, the lecturer proceeded to consider aneurisms of the ascending portion of the arch. Those of the sinuses of Valsalva were omitted as having been recently discussed by Dr. Firmin and Dr. Peacock. The great vessels of the neck, he observed, give a fixed bearing to the transverse portion of the arch, leaving its commencement free to change its position in accordance with the varying movements of the heart and body. The strong fascia which, arising from the diaphragm, passes over the pericardium, and on to the aorta and vessels at the neck, both strengthens the great vessels and secures unity in their common movements during the respiratory play of the diaphragm.

Several cases were then related of tubular aneurism of this part of the arch, causing dilatation, from its origin to the great vessels, and producing incompetence of the valves. In the first there was a loud musical murmur, audible a foot from the body, and as low as the sacrum and groins, and a thrill where the murmur was loudest. The second case presented very similar symptoms, and in each after death the aorta was found not only dilated, but elongated, and the lower end so pushed down into the heart as to alter materially the relation of that portion of the heart. This case exhibited in perfection a peculiar symptom, which was also present in some of the others. The patient's breathing would for a short time become very difficult, then gradually become shallower and shallower till it ceased, and he fell asleep. In about thirty seconds he began to breathe again; the respirations were at first slow, then deep, and finally as labored as at the commencement, the whole cycle lasting about ninety seconds, and then being renewed with remarkable regularity. For eight days this continued. He then began to spit blood, and with the occurrence of pulmonary apoplexy this peculiar symptom disappeared.

After glancing at the phenomena of "cardiac asthma," exhibited by some of his cases, in which the patient gasps for breath while air is entering freely into every air-cell of his lungs, the lecturer passed on to speak of the pouch-like aneurisms of this part of the aorta, and narrated several cases. In some of these the vena cava was pressed upon, and all the characteristic symptoms induced—swelling of head, neck, and arms, enlargement of veins, &c. In one of these there was a peculiar dark discoloration of the skin, of which only a few cases are on record. A case was related in which similar pressure effects were due to an intra-thoracic tumor, a condition not always easy to distinguish from aneurism. The guiding points in the diagnosis between the two were, the absence of a tumor from the intercostal spaces to the right of the sternum, the evidence of other tumors elsewhere, the presence of varicose veins on the surface of the chest and abdomen, a condition never met with in aneurism; the absence of a disproportion between the first and second sounds of the heart; the absence of enlargement and prominence of the arteries of the neck, and the absence of any marks of arterial disease in other parts of the body.

In conclusion the lecturer dwelt on the great importance, as a sign of aneurism of this part of the aorta, of the tumor striking the chest-wall at the second interspace to the right of the sternum. In other aneurisms the pulsation may begin elsewhere, and then descend to that point, but in these the pulsation commences there, and, if it moves, travels downwards.

LECTURE II.

Dr. Sibson commenced his second lecture (delivered March 25th), with an account of the sacculated aneurisms of the ascending part of the arch, which constitute fully one-half of the cases in which the aorta is affected with aneurism. The walls of the vessel, previously diseased, tend to yield to the pressure of the stream of blood, at two places especially; the right convex wall midway

between the orifice of the aorta and the origin of the innominate, and at the top of the ascending aorta, at the angle between it and the transverse portion of the arch, where the curve of the aorta presents the first obstacle to the onward flow of the blood. The sac formed may produce no symptoms, the patient, in a small proportion of cases, dying suddenly from hemorrhage into the pericardium, while apparently in perfect health. In half the cases the patients complain of difficulty of breathing, one-third are troubled with cough, and about the same number suffer from pain in the chest; symptoms due probably to pressure on the pneumogastric and sympathetic nerves. The aneurismal tumor presents itself in the second right intercostal space. There is no hoarseness or aphonia, stridulous or laryngeal breathing or dysphagia. Often the only symptoms which arrest attention are those of bronchitis, and the real nature of the malady is unsuspected till the end.

Two fifths of the cases of sacculated aneurism exist close to the origin of the innominate. In illustration of these a very interesting case was quoted, in which Mr. Heath tied the carotid and subclavian arteries. The pulsation did not cease after the operation, but it was much less in degree, and the distress of the patient was much diminished. The return of the symptoms was attributed to persistent use of the right arm. The patient lived for four years after the operation. Aneurisms in this position advance towards the upper piece of the sternum, and having reached it, tend to erode the bone and to grow upwards and sideways, but more to the right than to the left, and to displace both the transverse and ascending portions of the arch, and press directly on the trachea, and indirectly on the œsophagus and left recurrent laryngeal nerve. Pain is often present at the top of the sternum, the breathing often tracheal, the voice husky or lost. Dysphagia is frequent from the indirect pressure on the œsophagus.

From the oblique position of the transverse portion of the arch, aneurisms of the anterior wall project to the left, those of the posterior wall to the right: the former encroach upon the left lung, stretching the adjoining nerves; the latter press upon the larynx, œsophagus, and recurrent laryngeal. Thus, according to the side of the vessel, the train of effects will be different; but it may be laid down that, just as in aneurisms of the ascending portion the tendency of encroachment is to the right, so in those of the transverse portion the encroachment is to the left. In many of the aneurisms of the posterior and right side of the vessel, the sac is quite small, but pressing backwards on the trachea, produces symptoms more formidable than those due to any other variety of aneurismal pressure. Dyspnœa in many cases is always present, and increases in paroxysms of such intense severity as to produce unconsciousness, and in one of these attacks the patient may die. The cause of the paroxysm is a temporary increased fulness of the sac; the cause of the cessation of the dyspnœa is the diminished pressure of the blood, consequent on the weakening of the heart's action during the period of unconsciousness. Tracheotomy in this dyspnœa is useless; it may, however. prolong life in another class of cases, in which the difficulty of breathing is due wholly, or in part, to laryngeal spasm from pressure on the recurrent nerve, in which laryngeal breathing accompanies or replaces the tracheal stridor. In these cases, also, attacks of suffocative agony may threaten or destroy life as completely as in the cases of direct pressure upon the trachea. The character of the voice is remarkable—sometimes ringing, sometimes ventriloquial, sometimes squeaking, sometimes lost. Cough partakes of the character of the voice, and it is a cough without catch or stop; as one patient said, "he could never get hold of it." Pain is less frequent and less extensive than in cases of aneurism of the ascending or descending aorta, and has less of the shooting character. Dysphagia is a sign scarcely less constant than dyspnœa, and sometimes proves fatal.

LECTURE III.

Dr. Sibson's third lecture (delivered on the 30th of March) treated of the group of aneurisms which spring from behind the manubrium. This group includes those of the ascending aorta close to the innominate, those of the transverse aorta, and those of the innominate itself. In the latter the tumor is

situated behind the right sterno-clavicular articulation; and this position affords the best distinction from aneurism of the ascending aorta close to the innominate. As a rule, the sac enlarges both downwards and upwards; so that, while it invariably ascends into the neck, it generally also descends into the chest. The trachea and œsophagus are both pressed upon. The carotid and subclavian arteries are affected by direct pressure, and by plugging up by fibrin. The subclavian is narrowed or obstructed in nine-tenths of the cases; and this forms a valuable indication of the position of the aneurism. The right carotid is affected only in one-half of the cases. Difficulty of breathing is as frequent, though not so great, as in those of the transverse; cough is also present. Pain in the right arm is frequent when the tumor, ascending into the neck, presses on the brachial plexus; paralysis and the other effects of nerve destruction may result.

The descending part of the arch is tied down firmly to the spine by the arteries which arise from it. Aneurisms of this part, therefore, undergo their development in one spot, and everything in that spot is wrenched from its position. The transverse aorta and the whole arch is forced forwards, and if the tumor extends upwards there may be distinct pulsation over the manubrium. This aneurism agrees with that of the transverse in coming in contact with the œsophagus and recurrent laryngeal nerve, and it catches the trachea at its upper part. It differs in winding round the left bronchial tube, and if at all large, that tube is flattened. When the aneurism arises from the posterior wall, as it does in one-half of these cases, it presses upon the bodies of the vertebræ and absorbs them into its wall; it passes upwards rather than downwards, and may even extend, step by step, over to the opposite side. The great splanchnic nerve is literally woven into the sac, and, in consequence, we have pains going to the epigastrium and a difficulty of swallowing, referred, not to the seat of the tumor, but quite behind the lower end of the sternum, while an earlier symptom is a dyspepsia most painful and uncontrollable. Difficulty of swallowing often occurs also from direct pressure on the œsophagus, which may become incorporated with the sac. Pain is often present in the tumor itself, but not always, and not much stress is to be laid upon its actual character. In the few cases in which the aneurism becomes visible, it invariably points at the first rib, and thence travels downwards to the second space, or even lower. There is more or less dulness on percussion and bronchial breathing above the left scapula, and, very uniformly in Dr. Sibson's experience, increased vocal fremitus. A husky voice, laryngeal respiration, a very faint murmur, exaggerated heart-sounds, and enfeebled breathing over the left lung, complete a group of symptoms scarcely referable to anything else.

The symptoms of aneurisms of the thoracic aorta below the arch depend upon their position. Those of the upper end have the characters of the aneurisms last described, and in all there are the same effects upon the abdomen—pain, affections of the stomach and intestines, and not unfrequently obstinate constipation.

The reason why a murmur in these cases is sometimes present, sometimes absent, was correctly pointed out by Sir Dominic Corrigan in *The Lancet* for 1829. The looseness of the sac favors a murmur. When tight, nothing is heard but the sound of double pulsation. Some experiments of Dr. Sibson's fully confirm this statement.

The leading points in the treatment of these affections are—to keep up the nutrition of the patient, to relieve pain, and to lessen the force with which the heart sends the blood into the sac. The latter may be accomplished, first, by rest, and secondly, by reducing the volume of the blood upon which the heart has to act. As far as Dr. Sibson's experience goes, this may be done with absolute certainty by bringing the quantity of the liquid down to not more than a pint a day. Every case submitted to that treatment experienced the value of it. In one instance in which the liquids had been thus limited with benefit for several months, the patient's resolution gave way during a hot summer; he quenched his thirst by large quantities of water, and in two days the aneurism burst.

Art. 52.—*Specimen of Congenital Malformation of the Heart.*

By Robert Hunter Semple, M.D.

(*The Lancet*, January 18.)

At a meeting of the Pathological Society of London, held January 4th, Dr. Semple exhibited a specimen of congenital malformation of the heart in a child ten months old, affected with cyanosis. The child was brought as a patient when three months old, suffering from cyanosis. No treatment was recommended, and no hopes of improvement were entertained; but the child lived till about ten months old, when death occurred without any remarkable symptoms. The body was thin and emaciated, but the only morbid appearance discovered was some red hepatization of the lower lobe of one of the lungs. The heart presented the following conditions: The right and left auricles communicated by a patent foramen ovale. The left ventricle was small, and presented two openings—namely, the auriculo-ventricular, and a round opening through the septum ventriculorum. This latter opening was of about the size of a large goose-quill, situated at the upper end of the ventricular septum. The right ventricle was larger than the left, and presented three openings—namely, the inter-ventricular opening just described, the auriculo-ventricular opening, and the opening into a large artery, which, from its construction, position, and relation, must be regarded as the aorta. The ascending aorta was dilated, and the convexity of the arch of the aorta gave off the innominata, and the left carotid and left subclavian in their usual order; but from the concavity of the arch there proceeded downwards the ductus arteriosus, quite patent, and giving off a pulmonary artery on each side. But instead of communicating with a pulmonary arterial trunk, the ductus arteriosus continued its course obliquely downwards, and terminated in a pointed cul-de-sac at the base of the heart, near the origin of the aorta.

(D) CONCERNING THE ALIMENTARY SYSTEM.

Art. 53.—*Therapeutics of Chronic Constipation.*

By John Kent Spender, M.D. Lond., Surgeon to the Mineral Water Hospital and to the Eastern Dispensary, Bath.

(*Medical Times and Gazette*, February 19.)

Dr. Spender does not think that the usual professional treatment of chronic constipation of the bowels is very satisfactory. It appears to aim at the relief of the one obtrusive symptom, and to help the patient out of a present difficulty without sufficient reference to the future. It removes the obstacle of to-day by legitimate and easy means, but the obstacle of to-morrow is not prevented; hence what is done to-day must be done again to-morrow, and the remedial formula has an awkward *ad infinitum* look about it. The author's object in this paper is to try and raise a point of every-day practice to a scientific level.

The peristaltic action of the bowels is essentially a quiet and unfelt reflex function. Assuming that the voluntary movements subsidiary to defecation are efficiently performed—he means the pressure exercised by the muscles of the abdomen on its containing viscera—the fault lies mainly in a defect of the peristaltic action: either it is too slow, or it has too little force, or both force and time may share the torpidness so characteristic of the phlegmatic and scrofulous temperaments. And the root of this state is a sluggish habitude of the nervous system; an insusceptibility which is strictly congenital, which may be roused for a while by dynamic and even by physical stimuli, but which tends to lapse by inherent vice into its chronic torpor. This is the key to any right theory of obstinate constipation of the bowels. The term implies simply that a person being otherwise in tolerable health, the excretory function of the alimentary canal is performed at rarer intervals than is compatible with com-

plete health. And a twofold discomfort arises—partly mechanical, and partly depending upon a contamination of the blood by excrementitious matters.

Assuming that we have before us a case which clearly deserves the name of constipation of the bowels, the therapeutic inquiry is, how shall it be treated? And by the word treatment Dr. Spender pushes aside all temporary refuges and expedients, all drastic doses and exosmotic drains which merely empty the bowels *pro hâc vice* in the fashion of flooding out an unclean sewer. It may be necessary to do this once as a preliminary step, but what ought to come next? The object of philosophic medicine is to enable the patient to live without medicine—to realize such a state of health that the medicine (*i. e.*, the medium of health) is no longer required. To purge again and again largely and painfully for a chronic disorder is to clear away a nuisance without removing its cause, and therefore the nuisance must again and again recur. Galen and Hippocrates would have done more than this, any herbalist or quack can scarcely do less.

The plan which Dr. Spender now proposes does bestow some care on the future, and professes to be, so far, curative in its operation. It comprises four therapeutic factors: (*a*) minute and frequent doses of watery extract of aloes, very rarely of extract of colocynth; (*b*) a dose of sulphate of iron (gr. jss or ij) always combined with each dose of the direct aperient; (*c*) regulation of the diet; (*d*) constitutional exercise. The author writes chiefly of factors (*a*) and (*b*). The quantity of extract of aloes, in all but extraordinary cases, he says, should not exceed one grain. It is conveniently given in the form of a pill. With this pill there should always be mixed a dose of sulphate of iron varying from one to three grains; this is the essential point of the treatment. Any other tonic of the neurotic kind cannot supply the place of the iron; iron is not only *facilè princeps*, but is not interchangeable by anything else. Extract of nux vomica may be added, if the prescriber pleases, as an ornamental appendage or as a means of blending the other constituents together; and belladonna is a remedy of definite auxiliary power; but both these drugs, *quoad* constipation of the bowels, are uncertain or unsatisfactory, and rarely do permanent good. Dr. Spender begins, then, by desiring an adult patient to take a pill composed as above three times a day, immediately after the principal meals. He is cautioned that at first there will be probably no apparent effect, and that two or even three days may pass before any medicinal evacuation of the bowels takes place, perhaps even then difficult and discomforting. But within the next forty-eight hours there will be most likely an evacuation of the bowels once or possibly twice in the day; *but nothing approaching to purgation ought ever to be permitted*, and therefore the patient must be instructed, on the occurrence of the first loose motion, to withhold a pill, and to take only one in the morning and one in the evening. He then continues for a time his morning and evening pill, and is pleased to discover that so slender a medicament has such a decided effect. Not improbably, at the end of another week or fortnight, he is compelled by the same reason as before to drop another pill, and the same result is now brought about by one pill daily, as was originally produced by three pills. Within another month, he may reduce his allowance of medicine to a single pill once or twice a week; and finally his whole scheme of medical treatment becomes merely preventive in its design and scope, and he takes a pill occasionally for the sake of maintaining health and warding off old troubles.

When there is a real or fanciful difficulty in the administration of pills, the best way of carrying out the plan above described is by combining the *mistura ferri composita* with the *decoctum aloës compositum*, the doses being determined by an application of the same principles.

The author says he cannot lay too much stress on avoiding anything like an over-purgative effect by the drugs employed. If on this account the treatment has on any occasion to be stopped, there is so much time lost and so much ground to be retraced. A patient may, unintentionally, exaggerate his difficulties, but the skilful practitioner will not therefore depart from the fundamental principle of minute and frequent doses of his medicine. In this way nature is coaxed and assisted, instead of being forced and worried; and Dr.

Spender declares without hesitation that only by this means can a cure and permanent benefit be realized.

The urgency of regulating the quantity and quality of the food is so obvious, that the author adds nothing to what has been so well laid down by systematic writers. The necessity of constitutional exercise—a definite amount every day—is equally clear, and its physiology requires no illustration here. The serious and ingravescent forms of constipation which are secondary to stricture (cancerous or fibrous) may be temporarily relieved by the plan Dr. Spender has sketched; but ultimately the obstruction will defy all ordinary remedies, and our suspicions should be aroused to the possibility of organic disease, whenever a retrograde step occurs again and again after apparent success has been attained.

ART. 54.—*Treatment of Diarrhœa at the Evelina Hospital for Sick Children.*

(*The Lancet*, January 22d.)

One of the most frequent diseases, if not the most frequent, among the children of the poorer classes, is diarrhœa. Coming on at any age, and arising from many causes, it carries off in a large proportion those who have been previously enfeebled by disease. For information concerning the treatment of diarrhœa at this hospital, we are indebted to Dr. Kelly, assistant-physician. The frequency of these cases may be seen by the following table, which shows the number of medical cases which came to the hospital, and the relation to them of those suffering from diarrhœa.

	Total No. of Cases.	Diarrhœa Cases.	Ratio.
July	465	92	1 in 5
August	539	111	1 in 4.85
September	568	70	1 in 8
October	557	43	1 in 13

Very many cases of diarrhœa arise, as every one knows, from improper feeding. In these a small dose of castor oil, to begin with, seems to afford much relief, and then the chief thing to do is to insist upon proper diet. The child should be fed at proper intervals, and not too often; solid food should not be given, but thin arrowroot or milk and water substituted. Care should be taken that the bottle and tub from which food is taken are perfectly clean, as much harm may ensue from the milk turning acid before the child takes it. It often happens that, after weaning, a child is put too soon on a solid diet, or has something given which disagrees with it. Here, too, one dose of castor oil (half a drachm to a drachm) in a little mucilage does good by removing the foreign body; after that salines may be given, and the child put on a proper diet.

When diarrhœa occurs with teething, the child, in addition, is cross and peevish, and there is also generally more or less febrile excitement. Purgatives here appear of little or no use. It seems best, Dr. Kelly thinks, to give, for the first two or three days, a saline mixture, and then, if the purging continue, logwood and catechu, with carbonate of soda, or chalk, are of great use. It does not often happen that sickness or distension of the abdomen follows the use of an astringent; on the contrary, the child seems easier, and is less fretful. In many of these cases an alkali seems beneficial, and one part of lime-water may be mixed with three or four parts of milk, and given frequently during the day.

In many cases of pertussis, children suffer from diarrhœa after every fit of coughing, and very frequently they have prolapsus ani from the violence of the expiratory efforts. An occasional dose of rhubarb and gray powder may be given, and the child may be put on steel wine to improve the general health. This plan seems to have answered extremely well among the out-patients.

The above cases, however, do not often terminate fatally; but there are several children with thin, wizened, old-fashioned looks, who have for some time been suffering from starvation and neglect, or are the subjects of hereditary syphilis, and in these a fatal result is more frequent. It is not of much use

their taking the breast, inasmuch as the mother's health is generally in such a bad condition, nor can the parents often observe those measures which are needful for the child's recovery.

The child may be fed with warm milk and water, or thin arrowroot, to which a few drops of brandy may be added, and a small quantity of beef-tea may be given twice a day. In these cases small doses of steel wine often seem to do good; and if the case is syphilitic, one-grain doses of gray powder every night are useful.

Opium is not given, but pain is relieved by hot fomentations and linseed-meal poultices; flatulence may be removed by adding aniseed or caraway-water to the mixture. But in all cases the most important part of the treatment consists in paying a proper attention to the child's diet.

ART. 55.—*On Hæmatemesis and Perforating Ulcer of the Stomach.*

By GEORGE JOHNSON, M.D., F.R.C.P., Physician to King's College Hospital; Professor of Medicine in King's College, London, &c.

(*British Medical Journal*, March 26, 1870.)

In directing attention to the treatment of the two most serious and alarming accidents of gastric ulcer, hemorrhage and perforation, Dr. Johnson says:—

"Absolute rest in bed is essential. Then, while the tendency to bleeding continues, no food should be introduced into the stomach; but the patient should be sustained by nutritive enemata. The introduction of food into the stomach excites an increased afflux of blood to the organ. This alone may cause a return of the bleeding; and with the increased supply of blood there is a copious secretion of gastric juice, which, coming in contact with the ulcer, may dissolve the recently formed coagula that had plugged the bleeding vessels. The bleeding patient therefore should lie still, sip iced water, and be fed by the rectum. The most useful styptics in these cases are, tannic acid in ten-grain doses, tincture of perchloride of iron in twenty-minim doses, or oil of turpentine in twenty-minim doses. Each of these medicines I have seen speedily arrest the bleeding in different cases. In one case, the tannic acid excited nausea, and it was discontinued. In any case, I believe that the exclusion of food from the bleeding stomach is of more importance than the administration of medicine; yet I should always give one or other of the styptics that I have mentioned, if the bleeding continue in spite of abstinence and iced water. When the bleeding has ceased, liquid food may gradually and cautiously be given by the stomach; then solids; and lastly, iron is a most valuable restorative tonic.

"In the treatment of perforation of the stomach, the necessity for keeping the stomach free, not only from food, but from medicine, is absolute. This accident is generally fatal; but there are on record a few cases in which a patient has recovered after symptoms of perforation had occurred. One such case has been published by the late Dr. Hughes in the *Guy's Hospital Reports* (1846), and one case occurred in my own practice. On Christmas-eve, 1863, I saw, in consultation with Mr. Henry Lee, Mrs. T., aged forty. About two hours before, she had been seized suddenly in the street with severe pain, rapidly extending over the whole abdomen. She felt faint, and vomited, and had to be taken home in a cab. When I saw her she had excessive pain and tenderness over the whole abdomen; the pain being much increased by pressure, and by any movement of the body. The pulse was rapid and feeble, and the skin cold. I learnt that for several months past she had suffered from pain in the region of the stomach, increased by taking food. She had frequent acid eructations, for which she was in the habit of taking calcined magnesia; and, about three months before, she had on one occasion vomited a large quantity of blood. Here there was a distinct history of chronic gastric ulcer; and now the symptoms pointed clearly to perforation and consequent peritonitis. Acting upon that view of the case, we gave every two hours an enema consisting of half a pint of beef-tea, half an ounce of brandy, and fifteen minims of laudanum; by the mouth, only an occasional dessert-spoonful of water or barley-water to allay

thirst; perfect quietude in bed; hot fomentations to the abdomen. Under this treatment, the symptoms gradually subsided. As the pain abated, the laudanum was discontinued; but she was fed entirely by the rectum for nearly three weeks. She then began to take by the stomach small quantities of bread and milk, beef-tea, and arrowroot. For the first two or three days of feeding by the stomach, the food was rejected by vomiting; but this soon subsided, and she steadily regained strength. She called at my house on February 19th, 1864. She was then quite convalescent; but she had an anæmic appearance, and still complained of her old dyspeptic symptoms. I have not since seen or heard of her.

"In this case, recovery having taken place, it is of course not certain that there had been perforation of the stomach. The history, however, leaves very little room for doubt. This, at any rate, is certain: that the only chance of recovery from perforation of the stomach is afforded by giving both food and medicine by the rectum, and excluding both from the stomach until the rent has been firmly closed.

"Many years ago, on post-mortem examination of a case of perforating ulcer of the stomach, I found that a large pill had passed through the perforation into the cavity of the peritoneum. There can be little doubt that much food and irritating physic has often taken the same course in similar cases. Let us be careful to avoid a practice that of necessity must aggravate the patient's pain and peril."

Art. 56.—*Specimens of Ulcer of the Stomach.*

Exhibited by Charles Murchison, M.D., F.R.S.

(*The Lancet*, January 15.)

At a meeting of the Pathological Society of London, on December 21st, Dr. Murchison showed specimens of ulcer of the stomach. The cases had an obscure history. A woman, aged forty, died last summer. She had been intemperate, but her health had been tolerable. She complained of nausea and of pain, not increased by food. She had vomited a great deal of blood. The liver was rather small, but there was no evidence of portal obstruction. The hæmatemesis was checked for a time, but it returned profusely, and she died from loss of blood. The liver was small, but not diseased. The stomach, after careful examination, presented a very small ulcer in the great cul-de-sac. In its centre was a minute orifice leading into an artery. There were two small ulcers close by, but no signs of inflammation. The second case occurred in a male, aged twenty-eight, who had been a soldier, and possessed of good health till six months before, when he became faint and brought up much blood. Again he was seized suddenly with nausea, vertigo, and weakness; hemorrhage again occurred, the blood being bright red. The hæmatemesis caused his death. An exceedingly minute ulcer existed close to the œsophageal opening; its orifice was rounded as if of some standing. His liver was cirrhosed and syphilitic.

Art. 57.—*On the Etiology and Treatment of Simple Ulcer of the Stomach.*

By Dr. C. Gerhardt.

(*Wiener Medicinische Presse*, 1868; *Archives Générales de Médecine*, Décembre, 1869.)

Dr. Gerhardt admits that ulceration of the stomach may be developed under the influence of the gastric juice acting upon a portion of the walls of the organ deprived of its normal circulation. The disturbances of circulation may be produced by embolism from disease of the heart, and probably also in tuberculous subjects and in those affected with dilatation of the bronchi; by a fatty degeneration of the arteries in chlorotic and hysterical patients; by extravasa-

tions of blood deposited in the mucous membrane in consequence of injuries of the gastric region or violent efforts at vomiting; finally, by gangrene of a portion caused by the employment of corrosive medicinal agents. Dr. Gerhardt thinks that when once the disturbances of circulation are established, the ulceration will be developed the more rapidly the greater the difference there be between the quantity of acid fluid contained in the stomach, and the quantity of blood circulating in the arteries of the organ, and intended to neutralize the acidity of these fluids. Hence the frequency of ulcers in drunkards, and in individuals exposed to the consequences of famine; in the same manner may be explained the development of ulcers in chlorotic patients. The quality of the gastric juice and the nature of the food have also a considerable influence upon the development of ulcers. The more pepsine and hydrochloric acid the gastric juice contains, the lesser part will it take in the digestion of protein substances; the more the acid is developed in the stomach, under the influence of abnormal fermentation from the ingestion of amylaceous, saccharine, alcoholic, or fatty matters, the more rapidly will the ulcer progress.

The aim of the treatment should be the protection of the ulcerated surface from the digestive action of the gastric juice. It should consist in the almost exclusive ingestion of milk, eggs, and meat, and in avoiding starchy or saccharine articles of food which give rise to the rapid development of acid; the meals should be frequent, in order that the action of the gastric juice upon the food may not be interrupted. It is necessary to avoid copious repasts, and especially articles of diet capable of swelling in the stomach; these, in fact, distend the base of the ulceration, excite pain, and expose the patient to the risks of perforation.

When there is an extensive development of gas, advantage will be derived from the internal administration of carbon, and the application of cold compresses externally. These means sometimes suffice to bring about a cure.

The employment of narcotics should be rejected; they produce no favorable result, and disturb the functions of digestion. One may, however, have recourse, in cases of obstinate vomiting, to the subcutaneous injection of morphia. Whenever there is acute pain recourse should be had to astringents, especially to the perchloride of iron, the nitrate of silver, and the sub-nitrate of bismuth. For patients who are weak and liable to hæmatemesis, Dr. Gerhardt particularly recommends the repeated administration of perchloride of iron in three or four-drop doses to a glass of water. It is recommended in cases where the seat of the ulcer is known, that the patient be ordered to take such a position that the ulcer and the ingested fluid may come in contact. The nitrate of silver is given in one-grain doses in pills or in solution; bismuth is prescribed in doses of from six to ten grains.

Art. 58.—*Hydatid Disease of the Liver.*

By Stephen H. Ward, M.D. Lond., Physician to the Seamen's Hospital, "Dreadnought," and to the Hospital for Diseases of the Chest, Victoria Park.

(*The Lancet*, April 2.)

In this paper Dr. Ward adduces one or two practical illustrations of the symptoms, diagnosis, course, and treatment of the affection when implicating the liver.

Hydatid tumor of the liver is of rare occurrence among sailors, Dr. Ward has had but one case under his care at the Seamen's Hospital in the last ten years. Mr. Busk had but two cases during his long connection with this institution; and Dr. Budd, during his shorter association with it, only one. It would seem, also, according to Morehead, to be rare in India; this physician having met with only two cases there, one of which had been developed in Europe.

"The disease," Dr. Ward writes, "generally exhibits itself as a tumor, of variable size, situated either in the right hypochondrium or in the epigastric

region, even globular in its early stages, firm, resisting, with sense of elasticity and sometimes of fluctuation. Frerichs also notices, as peculiar to such tumor a vibration or trembling which is felt when the surface is compressed gently by two fingers of the left hand and struck abruptly with the right hand; but he does not consider such symptom as constant, it having been present in only one-half of his cases. If the tumor is situated behind the liver, it will, as it develops, push this organ forwards, flatten it, and increase the area of dulness. The tumor may last for a considerable time, and increase to some extent, and the patient nevertheless remain free from constitutional disturbance, perform all his functions well, and keep in good condition. When, however, it has attained to a large size it will give rise to various symptoms: to a sense of tightness and distension; if it presses upwards, to embarrassed breathing, irritative cough, palpitations; if upon the abdominal viscera, to interference with their functions. In the case presently to be recorded, among the prominent symptoms was a dull, gnawing pain, extending from the right lumbar region forwards, and somewhat paroxysmal. Irregularity of bowels was another constant symptom. At last from pressure upon the portal vein, there was some ascites, and from pressure on the right iliac vein, œdema of right lower extremity. In Morehead's cases there was present a gnawing, paroxysmal, epigastric pain, which was worse when the stomach was empty, and was accompanied with marked dyspeptic symptoms.

"Hydatid tumor of the liver is not always easily diagnosed; but the peculiar features of the tumor which I have indicated, and its compatibility, up to an advanced stage, with a good state of health, will point to its nature. Abscess of the liver may be distinguished by local and distant pain, the frequent antecedence of dysentery, the existence of constitutional symptoms—as hectic fever, rigors, &c. Cancer of the liver will be marked by the irregularly nodulated surface of the enlarged viscus, by the rapid development of the disease, and the cachectic aspect, wasting, and loss of power with which it is associated. I saw a little time since, in conjunction with my friend Mr. Ross, of the Commercial Road, a patient who had an epigastric tumor of even spherical shape; but the strong pulsations, elevating the head as one auscultated it, the bruit traceable along the aorta, before and behind, pointed to its aneurismal nature. The site, the pyriform shape, and limited size, and usual accompaniment of jaundice, will distinguish from hydatids the tumor caused by a distended gall-bladder. There was some difficulty in determining the nature of the affection in the subject of my second case; but careful percussion and palpation led to correct diagnosis, and showed that the tumor was extra-pleuritic, and connected with the left lobe of the liver. Frerichs thinks that hydatid disease of the liver is more frequently confounded with localized pleuritic effusion of the chest than with any other affection. He shows that the same physical signs—as dulness on percussion, absence of vocal thrill, intercostal fluctuation—would be present in both cases. He rests the diagnosis on the fact that the line of dulness on percussion would present a curve, the convexity of which would look upwards in one affection, downwards in the other. The following case, which was for some months in the Seamen's Hospital, affords an excellent illustration of the affection under consideration, and of the post-mortem appearances afforded by a hydatid cyst in an advanced stage of development.

"Case 1.—J. H——, aged thirty-six, a sailor, was admitted into the *Dreadnought* on Sept. 19th, 1861, for an abdominal tumor, incapacitating for work. He states that he has made many voyages to the East and West Indies, but has never remained ashore for any long time. Fourteen years ago, in Jamaica, after drinking new rum and exposure at night, he had fever, which from his account must have been yellow fever. Since then has had no other illness. Some months before he noticed anything amiss with him he had been at the Australian gold-diggings, where he drank hard. He observed for the first time about four years ago that his right side was enlarging beneath the small ribs, and that he had occasional gnawing pains over the site of this enlargement. Since then the swelling has gradually increased in size, and for the last two years and a half he has been unable to work. He has latterly had a dull, aching pain extending from the right lumbar region forwards, and for a long time has had gradually increasing dysp-

nœa. His bowels act irregularly; sometimes there is no evacuation for six or seven days, and then he is much purged; stools usually of light color. Has never had vomiting or jaundice. Urine free, of good color, and free from albumen. He has been gradually losing flesh for the last year and a half, and his strength now fails much. A tumor occupies the abdomen as low down as a line half-way from the umbilicus to the pubes, most prominent on the right side, where the ribs are much elevated; it extends also into the left hypochondriac and lumbar regions; it is firm and elastic to the touch, and with gentle tapping indistinct fluctuation is felt. In the middle of October he complained at times of what he called a deadening pain in the loins. There was now some fluid in the abdominal cavity and œdema of right leg and thigh.

"Oct. 20th.—Tumor firm and elastic, as before, and increasing in size; percussion now elicits a marked vibratory thrill. A night or two after this date he began to vomit much thin fluid of a dull, yellowish-green color; this continued through the night, with considerable pain over the abdomen. The day following much prostration ensued, and he gradually sank.

"*Post-mortem Examination.*—On removing the abdominal walls over the right part and lower margin of the liver, there was a thin layer of recent lymph, and the margin of the liver extended to the supposed limit of the tumor. On lifting up the liver slightly the hand came upon a firm elastic tumor, which was closely connected with the liver above, and covered by it in its whole anterior extent. In attempting to remove the tumor whole from its attachments behind, the knife unfortunately entered it, and a large quantity of clear, pale-yellow, limpid fluid escaped—about a gallon in all. When removed the tumor was laid open, and found to consist of one immense hydatid cyst; its proper membrane in parts being about a quarter of an inch thick, and in some parts looking like boiled white of egg, in others having a gelatinous consistence. The cyst was connected with nearly all the left lobe of the liver and a large part of the right; and the latter, much flattened out, covered a considerable part of the anterior wall. Six or eight secondary cysts were found in the mother cyst, varying in size from a pea to a hazel-nut. Echinococci were abundant in the fluid, and in the matter scraped from the walls of the cyst.

"Hydatid tumor of the liver may last for years, and be compatible with an average state of health, or at an early or advanced period of its existence it may terminate in one of the following ways:—

"1. As in the case just narrated, it may from its bulk and position press upon and interfere with vital parts and organs. Pressure upon the large venous trunks may induce ascites and dropsy of the lower extremities; pressure upon the stomach and intestine may obstruct functions connected with assimilation, induce failure of strength and flesh, and ultimately death from exhaustion.

"2. The tumor may contract adhesion with the diaphragm; ulcerative action through this may be set up, and either (*a*) discharge of contents of tumor may take place into the pleura, and fatal pleuritis result, or (*b*) further adhesions and ulceration may effect communication with lung, pneumonic symptoms be the result, and the contents of the sac, mixed with products of inflammation, be expectorated.

"3. Adhesions may be effected with some part of the alimentary canal, and the contents of the sac be discharged by vomiting or stool.

"4. Rupture of the sac may be effected by blow or otherwise, the contents be discharged into the peritoneum, and fatal peritonitis result.

"5. Frerichs and Budd notice a possible cure by the obliteration of the sac by a putty-like matter gradually forming within it, which involves, or perhaps results from, the death of the cysts.

"6. The tumor may contract adhesions with the parietes, and point externally, and be opened, or evacuate its contents by natural process. A blow or pressure may previously have set up suppurative inflammation in the sac, and then the risk will be greater, and there will be difficulty, as in Mr. Knipe's case (reported by me in the *Lancet* for October, 1868) in distinguishing from hepatic abscess.

"In the earlier stages of this affection a fair trial may be given to iodide of potassium, which has been found by some practitioners to be efficacious in producing absorption of the contents of the sac. So long as the tumor induces no distressing symptoms, and does not interfere with the functions of any organ, there is, perhaps, no indication for operation. When, however, the tumor is

increasing prominently, is the seat of pain or distressing distension, and is causing, as in case to be cited, such symptoms as difficulty of breathing, &c., it will be well at once to have recourse to puncture. Indeed, it is a question whether in all cases, when the disease is sufficiently developed, while the cyst is yet perhaps but single and the walls elastic, it is not the best course to puncture with a fine trocar, and let out the contents. I remarked, when treating of abscess of the liver, that modern surgery had taught us that we might take more liberties with the peritoneum than formerly we should have dared to do; and by attention to precautionary measures, which were practised in the case I now introduce, the danger attending the puncture of an hydatid tumor may be reduced to a minimum.

"Case 2.—E. A——, aged thirty-six, a married woman, who had been residing in a healthy part of Essex, was admitted under the care of Dr. Ward, at Victoria-park Hospital, on August 3d, 1867. Has had no family; previous health always good. She states that she has not been in the habit of leaning upon her stomach; but that fourteen years ago she struck her stomach against the back of a chair. She has for many years felt tenderness in the epigastrium. Three years ago she suffered for a time pain in the left hypochondrium, with dyspnœa. This pain went away for a year, but has recurred three or four times since, lasting on each occasion only for a few days. Six years ago she perceived swelling in the epigastrium. This has increased, and she has suffered considerably from pain in the back and beneath the shoulders.

"*Symptoms on admission.*—A healthy, strong-looking woman, with dark hair and florid complexion; was able, until lately, to work as usual, but had to give it up on account of pain in the back. Pulse 92, full and regular; breath short upon exertion; tongue clean, appetite good, bowels regular. There is a large tumor, occupying the whole of the left hypochondrium, and part of the epigastrium. The dulness extends two inches to the right of the median line, and to within two inches of the umbilicus; it is continuous with that of the liver and heart, and is separated by a resonant interval from the spleen. The false ribs and cartilages on the left side bulge considerably. The tumor is tense, elastic, with deep fluctuation. There are, apparently, no adhesions between it and the parietal wall. At its higher portion, in the median line, there is some tenderness, and at the lower part a bruit can be heard on pressure. She complains of a gnawing pain in the back and between the shoulders, which disturbs her sleep. Catamenia regular.

"August 20th.—A bandage was applied over the lower part of the abdomen, and of the tumor, which was then tapped by Mr. Power, the resident medical officer, at the tender spot with a fine trocar; thirty-seven ounces of fluid were evacuated, at first clear, afterwards of a pinkish color, and turbid. Digital pressure was kept up for an hour; a compress was then placed over the puncture, and a flannel bandage was firmly applied. Forty drops of hydrochlorate of morphia solution were given. On microscopic examination, the fluid was found to contain a quantity of red corpuscles and cells of the same size, upon which could be seen a circle of very small spines.

"21st.—Has passed a fair night; very little pain, chiefly in the back and side, but not in the neighborhood of the puncture. Is quite comfortable; skin soft and warm; pulse and respiration natural; bowels not opened since the tapping. To be kept perfectly quiet in bed, and on light diet.

"27th.—Has progressed without a single bad symptom; her only annoyance having been the pressure of the bandage. Bowels acted yesterday for the first time since the operation. Has been taking solid food for the last two days.

"Sept. 3d.—Bandage removed. Upper line of dulness not altered; lower, nearly one inch higher. Abdominal wall does not move over the tumor. No fluctuation. Prominence of left hypochondrium continues. Patient allowed to sit up.

"On Sept. 4th a plaster of ammonia with mercury was applied, and over it a linen; and on the 7th the patient left in good health.

"On Jan. 24th, 1868, she wrote, in answer to a note respecting her health: 'I am happy to say that I have not felt anything of my side; only sometimes I have felt a little fulness in it, and a slight pain in the back, but nothing of any account.' From an account received in Dec. 1868, it appears that the side is again enlarging; so that the patient will probably come again under treatment."[1]

---

[1] This case came again under notice last December. The tumor was then much larger than at first, and was causing great distress; and it was deemed advisable to have recourse

(E) CONCERNING THE GENITO-URINARY SYSTEM.

ART. 59.—*On Certain Morbid Changes in the Nervous System, Associated with Diabetes.*[1]

By WILLIAM HOWSHIP DICKINSON, M.D.

(*Medical Times and Gazette*, March 19.)

Diabetes has hitherto been regarded as a functional disorder, and has been attributed to erroneous action rather than structural change. This view, however, must be looked upon as only provisional. Function is simply the expression of structure; structure and function are as inseparable as cause and effect. Where, as in diabetes, function is permanently altered, it almost follows of necessity that there should be equally abiding changes in the mechanism of the organs concerned. In this belief the various organs of diabetic subjects were subjected to a searching examination, and it was found that the nervous system was the seat of important alterations, an observation which gained significance from the discovery of Bernard that puncture of a certain part of the medulla oblongata rendered the urine saccharine. The details of the examination of the organs in five diabetic subjects were laid before the Society, and the pathological changes in the brain and cord illustrated by a series of drawings, representing their naked-eye and microscopic appearances. The results obtained in the five cases are briefly these: Peculiar morbid changes were constantly found in the cerebro-spinal system. In all the alterations were of the same nature, and, for the most part, in the same situations. The earliest alteration recognized was a dilatation of the arteries. This was followed by a degeneration of the nervous matter at certain points external to them. An extension of the degenerative process occasioned destruction and excavation of the tissue around the vessel. Cavities were thus produced, often large enough to be striking objects even without the microscope, and contained bloodvessels, extravasated blood, grains of pigment, and the products of nervous decay. Finally, the contents appeared to become absorbed, so that simple vacuities were left. As to their situations, the changes occurred in constant association with arteries. They were found in every part of the spinal cord and encephalon, attaining their greatest development in the medulla oblongata and pons Varolii. The excavations were frequently in connection with folds of pia mater, and were often disposed with lateral symmetry. Several spots were found to be affected uniformly in all the cases examined—viz., the olivary bodies, the vicinity of the median plane of the medulla, the gray matter of the floor of the fourth ventricle, and in particular a spot just internal to the origin of the facial nerve. This point presented a remarkable sameness in all the cases, a large excavation lying generally on both sides in connection with a process of pia mater. Another spot, which in four of the five cases presented a considerable cavity, was found near to the front of the pons in the median line, also in connection with the pia mater. The optic thalami and corpora striata were involved to a slight extent. The septum of the ventricles, and the white matter of the convolutions, displayed the alterations in a remarkable manner, as also did the corpus dentatum of the cerebellum. The changes especially affected the white matter, though the gray matter at the floor of the fourth ventricle and of the spinal cord are exceptions to this statement. The cells of the gray matter were generally perfect. The deterioration was not general, but was limited to the vicinity of the arteries. Such parts of the sympathetic system as were examined—namely, the upper cervical and semilunar ganglia—were apparently natural. The only constant change found in the

to tapping. Mr. Gay and Dr. Ward visited the patient, with the purpose of performing the operation; but, shortly before their arrival, an opening had been effected into the alimentary canal, and the fluid contents of the tumor had been discharged by the mouth.

[1] Abstract of a Paper read at a meeting of the Royal Medical and Chirurgical Society, February 8.

viscera was epithelial accumulation in the liver and kidneys. It would seem from the foregoing observations that diabetes is associated with an organic change, which may be briefly described as a destruction of the nervous matter along the arteries of the brain and cord. From the uniformity with which this was found in the five cases examined, it may be presumed that there was a more than accidental connection between the symptoms of diabetes and the peculiar state of the nervous centres. The question presents itself, whether the lesion is a result of the disease or its cause. The association of the morbid action with the bloodvessels suggests that it may be connected with the state of the blood. We know that the blood in diabetes is altered by the presence of sugar; is it to this that the deterioration of tissue is due? Several conditions militate against this, at first sight, probable explanation. The veins and capillaries appeared to take no share in the morbid process, though equally permeated by diabetic blood, which, in the capillaries at least, is brought into more intimate relation to the tissues than in the arteries. If the changes in the tissues were directly due to the altered composition of the blood, the capillaries could hardly fail to distribute its morbid influence. Besides this, the blood traverses the whole body without producing in any other organ an analogous failure of nutrition. We may probably abandon the view that the changes described are consequent upon the diabetic state of the blood, and have recourse to the supposition that the nervous alterations are antecedent to and productive of the glucosuria. The following considerations may be mentioned in favor of the latter supposition. No organic change has been found elsewhere to which the saccharine state of the urine can be attributed. The alterations in the brain are, in their nature and situation, exactly such as physiology has shown to be capable of producing that symptom. Further, we are the more disposed to regard the nervous changes as primary by the fact that alterations similar in kind, though differing in distribution, occur as belonging exclusively to the nervous system, quite independently of diabetes. This is the case particularly in the general paralysis of the insane. Dr. Lockhart Clarke has, since most of the preceding observations were made, described the lesions in that disorder, and shown that though differing somewhat in situation, they are of the same nature as those here described. The conclusion that diabetes is primarily and essentially a nervous disease accords with all that is known of its natural history; indeed, the opinion has, of late years, been gaining ground, that the disorder is due to altered nervous action, though no structural change was known to account for it. The urine often becomes saccharine in consequence of injuries of the head, apoplectic seizures, intracranial tumors, and other sources of cerebral irritation. These traumatic and accidental forms of the disease are, as we may believe, not necessarily accompanied by the grave and general lesions which have been under consideration. Several kinds of irritation, if acting in the right situation, give rise to a similar change in the urine, though often temporary, and for the most part unaccompanied by the serious symptoms which characterize what may be termed "idiopathic" diabetes. Diabetes in its ordinary "idiopathic" form, though sometimes hereditary, and often taking its origin in cases which are not within our knowledge, continually results from circumstances which exert a depressing or otherwise injurious action upon the nervous functions; among them may be mentioned mental disturbances, rage, grief, anxiety, and toil, and the various forms of dissipation, among which sexual excess takes a prominent place. Causes of this nature may readily give rise to modifications of circulation in the nervous centres, and it has been shown that, as far as could be learned from the microscope, a widening or distension of the arteries was the initial change in the pathological series. The foregoing observations concur in leading to the belief that diabetes essentially belongs to the nervous system, a consideration which may have a practical issue in modifying the treatment of the disease.

Dr. Lockhart Clarke bore testimony to the faithfulness with which the appearances had been described. They were precisely similar to those which he had met with in a case of general paralysis, and of which he had given an account in the last number of the *Journal of Mental Science*. As far as he knew, nothing like them had been described before. In his case, which was a

typical one of general paralysis, the brain resembled Gruyère cheese, or crumb of bread. The bloodvessels in the brain were surrounded by the so-called perivascular sheaths, and these were contained in large channels in the brain-tissue. The structure of the perivascular sheaths underwent some thickening, and had then been supposed, by Rokitanski and others, to be an exudation; but they were natural structures. The cavities were not new formations in the brain, but were left by the destruction of the vessels and their sheaths. Dr. Dickinson had not referred to the mental state of his patients. In his (Dr. Lockhart Clarke's) case the cells of the convolutions were much altered, had undergone degeneration, and were loaded with pigment-granules. He had also found in a case of diabetes degeneration of the floor of the fourth ventricle, and erosion of the calamus scriptorius, with destruction of the nuclei of the vagus. It is very remarkable that there were cavities at the roots of the facial nerves, and in his case he had found the same.

After some remarks from Mr. Thomas Smith, Mr. Brooke, Dr. W. Ogle, and Dr. Hare—

Dr. Dickinson replied to the various speakers. He said that in his patients the mental faculties had been weakened, but not otherwise impaired; and that the cells of the convolutions were everywhere natural. The cavities he described were irregular in form, eroded, and contained entangled vessels. In paralysis he believed that changes of the cells were usually found, and that the lesions were chiefly in the pons Varolii and the anterior part of the convolutions. In his cases the lesions were universally distributed, but were most abundant in the medulla oblongata.

ART. 60.—*Cases illustrating the Influence of Opium and some of its Constituent Principles in the Treatment of Diabetes.*

By F. W. PAVY, M.D.

(*Guy's Hospital Reports*, vol. xv.)

Dr. Pavy has revived an old method of treating diabetes, by the administration of opium; but he has done more, for he has endeavored to find out which of the constituents of that wonderful drug deserves the credit of the cure; and the copious tables of the daily examination of the urine show the great success he has attained. He finds that opium, morphia, and codeine, all possess the power of checking the elimination of sugar in the urine. Of the three, he considers codeine to be the best. Narcotine and narceine were tried in one or two cases, but apparently without benefit. Dr. Pavy begins with half a grain of codeine, and has given it, by gradually increasing doses, to the extent of ten grains three times a day. The following are fair examples of each method of treatment: A man aged fifty, after a month's restricted diet and the use of alkalies, was still passing urine of specific gravity 1038, with 26.64 grains of sugar per ounce, or 1198 grains per diem. After thirty-eight days of opium treatment, there was no sugar, and the specific gravity was only 1025. On leaving off the opium, the specific gravity had risen in seven days to 1048, and the sugar amounted to 1965 grains per diem. On renewing the opium treatment, the sugar was immediately lessened, although he took ordinary diet. He considered himself well, although there was still a little sugar present, and left the hospital. A woman, aged sixty-eight, passed five pints of urine, of specific gravity 1040, with sugar to the amount of 3275 grains per diem. Under the use of opium, with ordinary diet, in less than three months the urine was reduced to two pints, of specific gravity 1016.20, and was quite free from sugar. She continued well for twelve months, when mental anxiety and overwork appeared to be exciting causes of a fresh attack. She then passed four pints of specific gravity 1036, with 2220 grains of sugar, in the twenty-four hours. Rather less than three months' treatment with codeine completely cured her, the urine amounting to only two pints, of specific gravity 1020, quite free from sugar. She took the ordinary mixed diet of the hospital. The amount of work

represented by Dr. Pavy's paper may be roughly estimated when we state that it contains the results of more than 1500 examinations of the urine for percentage of sugar.

Art. 61.—*On the Diagnostic Value of the Corpuscular Blood Elements in the Urine of Bright's Disease.*

By Joseph G. Richardson, M.D.

(*American Journal of the Medical Sciences*, January.)

Dr. Richardson bases his researches on Cohnheim's observations on the process of Pyogenesis, which he says have been tested and corroborated by J. Woodward, of the Surgeon-General's Office at Washington. Cohnheim's view of pyogenesis is that it "consists, first, in a partial interruption of the flow of blood, by which the red corpuscles move more slowly through or almost block up the capillaries, while white globules, adhering to the parietes of the vessels, arrange themselves in a layer upon the inner surfaces of the walls; and secondly, in the 'wandering out' of the white blood-cells through the stomata, demonstrated by Recklinghausen in the finer bloodvessels, by virtue of that amœboid movement which is one of the most remarkable attributes of the white blood-corpuscles." Pus consists of the white blood-corpuscles which have thus wandered out, and of exuded serum.

Dr. Richardson applies these observations to the elucidation of the pathology of kidney disease and the microscopic appearances presented by the urine. He has been anticipated, however, partly by Professor Axel Key, of Christiana, who, in a paper translated into the *Medical Times and Gazette* of May 22d, 1869, states, that, from his experiments made by setting up inflammation of different grades in the kidneys, and at the same time throwing cinnabar injections into the blood, he finds that even in slight irritation the white blood-cells, without interstitial changes and without hemorrhage, escape from the vessels into the renal glomeruli, and force their way into the tubes, sometimes one by one, and sometimes several together, and are found in the urine under the appearance of pus cells, or Professor Key believes the leucocytes may remain on the lining membrane of the tubules and develop into epithelium. He further states: "In morbid changes in the kidneys the cells which have migrated from the glomeruli, and from the interstices into the tubes, and which resemble pus-cells, may occur in great abundance in the urine, both isolated and forming whole cylinders, without the slightest trace of suppuration or actual pus formation being discoverable in the kidneys."

Dr. Richardson believes that the simplest form of renal inflammation may be produced by some mere mechanical cause, the pressure, for instance, of a small uric acid calculus or a plug of adherent white blood-corpuscles. This produces a partial or complete stasis of blood in the neighboring vessels, whose first or least amount results in the migration of a few leucocytes and the exudation of the liquor sanguinis, which, mixing with the urine, renders that fluid slightly albuminous; the second or medium degree results in the formation of tube casts, called fibrinous (sometimes on insufficient evidence), and the abundant wandering out of the white (accompanied by a few red) blood-cells, through their power of amœboid movement; lastly, when of its third or highest intensity, in the free escape of the red blood disks, in addition to the other elements alluded to, through the walls of the minute capillaries. He believes that red and white corpuscles occurring in their natural proportions in the urine indicate renal hemorrhage; when the two kinds of corpuscles are more nearly equal in number, they indicate acute or subacute nephritis; and that the existence of white blood-cells (pus, mucus, or exudation corpuscles) without red generally shows a chronic or, at least, less active inflammatory condition of the kidneys. Further, that careful comparative microscopic examinations, performed at intervals of a few days, afford an important guide to the effect of treatment and the progress of the disease.

(F) CONCERNING THE CUTANEOUS SYSTEM.

ART. 62.—*The Lectures on Dermatology at the College of Surgeons.* By Professor ERASMUS WILSON, F.R.S.

(*The Lancet*, February 5, 12, and 19.)

LECTURE I.

Professor Wilson, F.R.S., entered upon his course of lectures, on Monday afternoon, January 31, at the College of Surgeons, before a large audience. He commenced by stating that dermatology had its history and its ancestry, and proceeded to show how much it owed to the labors of Æsculapius, Hippocrates, and others, especially in regard to the many terms now used to describe the various cutaneous diseases, and which, probably, in a great number of instances, were those that fell from the lips of the great Father of Medicine himself. These terms or words were coined to express objective and subjective phenomena, such as color, figure, and quality on the one hand, and evolution, symptoms, cause, and the like, on the other; and those which we use in a strictly scientific sense were "the common language of the people" in the earliest times, and are at the present time as eloquent as they were then. The lecturer, in fact, as may be gathered from the preceding remarks, would go back as much as possible to the original meaning in the employment of terms in cutaneous medicine—a plan which must necessarily produce endless confusion, leading to the abandonment of simple and well-understood designations for the re-introduction of the most obsolete nomenclature. The lecturer lingered a long time on the dictionary in his reference to mere terms, which were displayed in abundance on the diagrams behind him. He next proceeded to speak of the pathological lesions in the two groups of primary and secondary, the former including the tuber, macula, papula, tuberculum, &c.; and the latter, desquamation, induration, incrustation, &c. The papule was ascribed to turgescence of the follicles; the tubercle, to the fact that a congeries of follicles were involved in the inflammatory process; the difference being one of bulk between the tubercle, the tuber, and the papule, as well as between the vesicle and the bulla. The causes of cutaneous ailments might be ascribed to defective development, errors of nutrition, mal-assimilation, irritation, and specific poisons. The treatment of diseases of the skin was stated to be in accordance with the general principles of surgery. There was no internal specific for diseases of the skin; not even was arsenic one, acting as it did as a tonic to the nervous system, and after suitable preparation, by other means. It was desirable to improve the general health; and after the acute stage of disease was passed, and had been met by soothing remedies, to stimulate locally the diseased parts by such agents as tar, sulphur, and the like. Mr. Wilson sketched the various classifications of Celsus, Mercurialis, Riolanus, Plenck, Willan, Alibert, and others, mentioning especially what has recently been insisted upon by Dr. Tilbury Fox, that Willan's arrangement and description of diseases are the result of a consideration of the latter, not as regards their initial lesions, but their stages of maturity. It will be gathered from the above that Mr. Wilson touched in a general way only on his subject.

LECTURE II.

On Wednesday, Jan. 26, Professor Wilson delivered his second lecture, the subject being "Eczematous Affections." His reason for dealing first of all with eczema was that this affection was the commonest of all cutaneous ailments, and that being the case, it becomes, as it were, a standard of comparison for other inflammatory affections. Eczema was defined to be a chronic inflammation of the skin, attended with erythema, exudation, and pruritus, being always associated with disordered nutrition of the rete mucosum; and hence followed

by desquamation of the cuticle, sometimes effusion into the skin so as to produce vesiculation, discharge, &c. Four words had in past times been applied to it—psora, scabies, eczema, and psoriasis; and these had become sadly misplaced in modern times. In eczema in infants the peculiar diversity of form assumed by eczema is best seen, and is partly due to diversity of structure, according to the varied localities of the body affected. The congestion varies according as the horizontal or follicular plexuses of the skin are involved separately or conjointly; hence uniform or punctated redness. Hyperæmia characterized the first form of eczema—viz., E. erythematodes; but further stages were reached by the recurrence of exudation about the follicles, giving rise to E. papulatum, or E. vesiculosum; by free discharge constituting E. ichorosum, or in the case of pus production, E. pustulosum; and lastly, by the formation of scales, giving origin to the term E. squamosum. Of all the forms the vesicular is the least frequent; hence, asserted Mr. Wilson, the incompetency of Willan's arrangement to depict the disease. Various subforms were then referred to, together with the modifications induced by the drying of eczema, and the occurrence of cracks, fissures, scales, and the like. The term, "psoriasis," in opposition to all other modern dermatologists, is used by Mr. Wilson to signify the scaly stage of chronic eczema with infiltration, and pityriasis to a similar stage in which there is no thickening, and the scales are very fine and branny. In one form of pityriasis, the so-called P. rubra, to which Mr. Wilson gave a new name, *dermatitis ex obliativa*, there was intense redness, with the free production of large flakes, made up of epithelial elements. The absence of all discharge distinguishes it from eczema. The acarus scabiei was regarded as a cause of eczema; in fact, scabies was looked upon as an eczema produced by the irritation of the itch insect. Speaking of lichen, Mr. Wilson said that Willan's papule of lichen and the papule of eczema were the same, and that indeed two terms, lichen and eczema papulatum, existed for the same thing; but, at the same time, the lecturer placed lichen under a separate head, and described the several varieties, referring especially to the characters of lichen planus, and regarding that disease as identical with the lichen ruber of Hebra, on which point, however, there is considerable doubt. In speaking of impetigo, Mr. Wilson spoke to the truth of the assertion that a special form of this affection existed which was often epidemic, attacked several members of the same family, and was characterized by the development of small vesicles, that subsequently blebbed and scabbed over. He had named this impetigo phlyctenodes, which was supposed to be contagious by some; hence the term "impetigo contagiosa," by which it had recently been designated. A general sketch of the treatment of eczematous affections brought the lecture to a close.

LECTURE III.

On Friday, Feb. 4, Professor Wilson delivered his third lecture, and treated of the three diseases, erythema, pemphigus, and dothien (or furunculus). The reader will not fail to notice that dothien is an innovation. The erythematous affections are characterized by a simple pathological redness, superficial, diffused, or circumscribed, apt to change from place to place, to spread, and to be accompanied by a varying degree of pruritus. As contrasted with eczema, erythema had, not a multiple, but a single-lesion hyperæmia; and but rarely such disturbance of the cutaneous surface as to disorder the cuticular formation. It is a pathological hyperæmia. The nerve control of the vessel is lost; but the cell-elements also are implicated, these imbibing a large portion of exuded fluid, giving rise in some cases to distinct swelling or tumescent erythema. In erythema, the character of the redness, its superficial nature, and the tendency to œdema, are the important features. In the eczematous family the local phenomena are of primary moment; in erythema the hyperæmia is of secondary consequence, the general state giving rise to it most important. The first sign of disordered health in eczema are the local changes, the reverse holding good in reference to erythema. The varieties of erythema are: 1. Fixed forms—viz., (*a*) traumatic, as from pressure, friction, heat, cold, and irritants; (*b*) hæmostatic, as from varicose veins, and in cyanosis; (*c*) idiopathic, as in simple erythema

from several causes; (*d*) hæmatolytic, as in the various forms of purpura, which, as will be seen, is classed by Mr. Wilson as an erythema. 2. Migratory forms, as in Erythema fugax, circinatum, gyratum, marginatum, iris. 3. Tumescent, forms, in which the subcutaneous cellular tissue is involved in the inflammation, as in Erythema tumescens, papulosum, tuberosum, nodosum, ranked by Hebra under the general term E. polymorphicum, or multiforme. A very beautiful model of erythema, from the action of copaiba taken internally for the cure of psoriasis, was exhibited, and the influence of aniline dyes in inducing erythematous eruptions was fully referred to. Erysipelas was classed with erythematous affections, and its usual varieties sketched. Urticaria, or the kindosis of the Greeks, was described as an erythema chiefly remarkable for the intense pruritus with which it is accompanied, and the migratory and capricious character of the redness. The irritability of the skin was shown by the production oftentimes of wheals after the least scratching of the skin, and through the spasms of the muscular tissue of the skin, and probably the vessels. The varieties made were acute, chronic, as usual, and tumescent forms, U. tuberosa and subcutanea, which, as it were, cemented the alliance between erythema and urticaria. An account of pemphigus, or phlyctenous affections, came next, embracing miliaria, pemphigus, and herpes; and, lastly, furuncular, or, "adopting the language of the Father of Medicine," dothienic affections. These latter were made to include ecthyma—the typical pustular disease of the skin, associated with cachexia and other signs of debility; pustula maligna; furunculus; krithe (or hordeolum), and anthrax, of which Delhi, Aleppo, and Scinde boils are regarded as varieties. The core of the furunculus was regarded as a portion of this tissue—circumscribed gangrene. Mr. Wilson fully acknowledged the neurotic relations of herpes, and stated that in the phlyctened affections as a whole there was depressed innervation, and lowered vitality of the skin.

LECTURE IV.

On Monday, Feb. 7, Professor Wilson delivered his fourth lecture, and dealt in it with (1) inflammations originating from specific poisons, viz., exanthemata, syphilitic affections, or dermato-syphilis, and elephantous affections, or elephantiasis; (2) inflammations from specific constitutional causes, including lepra vulgaris, strumous affections, or dermato-struma, and carcinomatous affections, or epithelioma; and (3) inflammations from traumatic causes, including the results of burns, bites, stings, frost-bite, chilblain, parasites (animal), &c. In speaking of roseola, Mr. Wilson stated that there was one form said to be like measles, which was a variety of the latter of lesser severity than usual. Objection was taken to the term "lepra syphilitica," the squamous syphilide being in no sense a lepra, but a disturbance of the epithelial formation over a syphilodermic deposit, or erythema. Elephantiasis was ascribed, as regards its cause, to the action of a poison of malarial nature, rather than to peculiarity of diet, or the like. It was regarded as being sometimes contagious. Mr. Wilson expressed his belief that lepra vulgara was, as regards the skin, the homologue of tuberculosis of the lung. This conclusion seemed to follow from the fact that it occurred in the children of those who were phthisical or cancerous very frequently, and that the children of those actually attacked by the disease often became phthisical. The occurrence of the disease, however, in the skin gave a certain immunity from phthisis in the lung. The disease was the consequence of nutritive debility. The relation of erythematous lupus to strumous affections was insisted upon, and the implication of the sebaceous glands in this disease referred to. The characteristic of the strumous affections was the production of a tissue of low vitality, and therefore doomed to destruction. In carcinoma, or epithelioma rather, the first impulse to change originates in the cells of the rete, or the glands. Mr. Wilson did not in the lecture make any distinction between epithelioma and rodent ulcer. The well-known pedicular disease, or phtheiriasis, was recognized as a separate disease from prurigo. Reference was made at the end of the lecture to neurotic affections, especially prurigo, which was stated to be a pruritus *plus* eruption induced by scratching, and not necessarily dependent upon the presence of pediculi, as has been so freely asserted of late.

LECTURE V.

On Wednesday, February 9, Professor Wilson proceeded to deal with nutritive affections, or aberrations of nutrition, under the two heads of defect of nutrition and hypertrophy, the former including dermatoxerasia, or, as most people term it, xeroderma, and ichthyosis in its somewhat varied forms; the latter tegumentary moles and nævi, molluscum, warts, corns, papillary enlargements, keloid, dermato-sklerosis (or scleriasis), the elephant leg (called by Mr. Wilson spargosis, but by most writers bucnemia), xanthlasma (*i. e.*, the vitiligoidea of Addison), the various forms of vascular nævi, &c. The essentially congenital nature of xeroderma was insisted upon by the lecturer, who ascribed the origin of the disease to exhausted nutritive power in the young. The epithelial formation not only of the surface of the skin was disturbed, but also that constituting the lining of the gland, or which forms the sebum, in fact. This leads to the collection, in some cases, of an excessive amount of sebum, which, collected together into little masses, in conjunction with the epithelial cells derived from the surface of the skin, forms plates (fish-skin disease), or horny projections (porcupine disease). Speaking of the elephantiasis arabum, Mr. Wilson said he had seen a cellulitis involving the deeper parts of the subcutaneous cellular tissue, as well as the skin, and in which there were remarkable hardness and solidity produced without the occurrence of any œdema—such as occurs in what is known in some hot climates as the rose, often the precursor of elephant leg or bucnemia. Xanthelasma, or vitiligoidea, was regarded as a deposit of oil in the substance of the cutis, and in the neighborhood of the follicles, and its relation to disease of the liver was referred to. The term xanthoma was proposed for this disease, when the deposit takes the form of perceptible enlargements, and especially when involving the cellular tissue, as may sometimes be seen in the arms and hands, and other parts of the body. Keloid was considered to be a simple hypertrophy of the white fibrous tissue of the skin, occurring in scars (traumatic), or springing up of its own accord (idiopathic). To the same category belonged morphœa, characterized by whiteness and denseness, due to the presence of dense fibro-cellular material like bacon in the skin; and seen sometimes in conjunction with a general or banded induration and thickening about the skin, in which the increase of the white fibrous tissue is very distinct, and occurs without contraction, and with a yellow color (dermato-sklerosis); molluscum areolo-fibrosum, or fibroma; dermatolysis; and verruca, and the papillary excrescences seen about eczematous disease of long standing.

The next and last group of diseases referred to was "aberrations affecting the epithelium," or epidermic affections. Mr Wilson said there was only one morbid state that could be regarded as a separate state by itself, and that was "the granular degeneration of the epidermis." This was a low form of inflammation, bringing about a peculiar alteration of structure. The granules in the rete mucosum, that usually grew into cells, are arrested in their early stage of growth, and simply proliferate; they subsequently bud and elongate, giving rise to what resembles in appearance a phytiform growth, or a fungus. Some people have gone the length of regarding the new production as vegetable in nature, and had ascribed the change to the implantation upon the surface of a vegetable fungus. Mr. Wilson regarded the whole thing as a granular degeneration of the epidermis. Mr. Wilson merely limited himself to the statement, and did not enter into any arguments in support of his opinion. He observed that ordinary ringworm was contagious, but that pityriasis versicolor was not so under any circumstances—a statement at variance with the experience of other observers.

LECTURE VI.

On Friday, February 11, Professor Wilson concluded his course, which the reader will observe was limited to the enumeration of diseases of the skin, of their proper designations, and the position which they severally occupy in the clinical classification proposed by the lecturer. In the last lecture Mr. Wilson dealt with onychopathic, chromatopathic, tricopathic, steatopathic, and idroto-

pathic affections, or diseases of the nails, of color, of the hair, of the sebaceous glands, and of the sweat-glands; the details being in accordance with the arrangement adopted in his published works, with this exception, that guttarosea figured under the head of disease of the hair-follicles, instead of eczema as hitherto. Mr. Wilson, of course, denied the parasitic origin of the disease in the hair of ordinary ringworm, and the fungous nature of the trichophyton or achorium. He referred to a swollen condition of the hair in syphilis, in which the cortical part is reduced to a mere thin external sheath, the remainder of the shaft being occupied by structure which has the characters, broadly speaking, of the medulla. We understood Mr. Wilson to refer the occurrence of brittleness of the hair, in connection with the rupture of its fibres, in the sites of what appeared to be little white specks or knots in different parts of the shafts, to the generation of air in the shaft from disorder of the nervous system.

In concluding, Mr. Wilson said he had, as proposed at the outset, reviewed the components of the family of skin diseases, had taken a synoptical or panoramic view of one branch of medical science, and had endeavored to construct a framework in which each disease had its separate and appropriate place. His task completed, he had one duty left to perform. He would feel he had ill fulfilled it did he fail to convey some expression of gratitude he felt towards the Council of the College of Surgeons for the protection it had extended to dermatology by giving it an asylum within these walls, for setting apart such a magnificent site as the Hunterian Museum for the display of various illustrations of disease, some of which had been before them. The young plant thus planted must thrive and grow strong, so that in times to come British dermatology, fostered by the College of Surgeons, would become one of the ornaments of British medicine.

ART. 63.—*Remarks on Feigned or Hysterical Diseases of the Skin.*

By JAMES STARTIN, Esq., F.R.C.S., Senior Surgeon to the Hospital for Diseases of the Skin, &c.

(*British Medical Journal*, January 8.)

In Mr. Startin's public and private practice during the last thirty years, wherein perhaps one hundred and fifty thousand instances of skin disease have been recorded, he has met with numerous examples of so-called "hysterical diseases of the skin."

Hysteria has been termed an "essentially imitative disease;" and, although the morbid condition of the system from which it originates is chiefly confined to the softer sex—the result, probably, of reflex action connected with the organs of reproduction—yet there are rare instances of similar feignings in the male, though these, for the most part, are examples of malingering.

The maladies of the skin which, in Mr. Startin's experience, are most frequently simulated, are erythema, eczema, pemphigus, ulcerations, morbid growths or discolorations, the "Dyschromatoderma" of an eminent dermatologist, alopecia, and changes in the cutaneous secretions.

"The first instance which I shall cite is an example of simulated eczema of the eyelids in a married woman, between thirty and forty years of age, the wife of a merchant's clerk in Austin Friars, who had been accustomed to move and find employment in stations superior to that now occupied. This patient, who was childless, but had adopted a little girl whom she passed as her own, was troubled with various hysterical ailments, amongst which was the not uncommon one of retention of urine, attended with attacks of cough and sickness—such attacks not being amenable to any treatment by myself and others, beyond the apparent relief following the passing of the catheter. On one occasion, in an interval of my attending her, the patient, after a violent fit of hysterical cough, had ecchymosis of both conjunctivæ and of one eyelid; this she chose to treat by washing with lime-water, of course producing much irritation; and, to relieve the latter, she obtained a lotion from a druggist, which she persisted in using, owing to its asserted cooling qualities (?). The effect

of this lotion was to cause an eczematous affection of both eyelids, for which she again sought my advice. The usual appliances were recommended, and internal means, but without avail. The patient stated that the lotion from the druggist was 'all in all.' I therefore called upon the latter, and found that my patient, at her express desire, had been supplied with a hair-wash which contained ammonia and tincture of cantharides; hence *eczema palpebrarum*. I got little credit from my patient or her friends, by exposing her proceeding; but the hair-wash was discontinued, and a cure accomplished by a lead lotion. I was less successful with the retention of urine, for which she became treated by the late Dr. Conquest. This patient, whilst apparently blinded by the eczema, performed numerous hysterical acts, such as cutting out figures, likenesses, &c., on black paper, in a remarkably clever manner, which, as she pretended she could not see, constituted a true 'exaltation nerveuse.'

"The second case was simulated erythema marginatum in a young woman, aged twenty-one, employed in a draper's shop, in which were several good-looking young men. I found that the erythema, situated in different regions, was occasioned by the skilful use of flour of mustard applied in the wet state by means of a large camel-hair brush, so as to produce the map-like form indicative of this form of erythema. I was indebted for the accidental discovery of this agent to a sister of the patient, who told me, with seeming concern, that nothing appeared to do her sister so much good as a mustard emetic, and that she was obliged to take one twice or thrice a week; but that the eruption was always worse the next day.

"The third case which I will cite is a very curious one, of discoloration of the skin—'dischromatoderma'—inasmuch as it was well known to most of the eminent physicians in Brighton and London; the young lady residing in Sussex, and being of a family of some social importance. She was under the care of my friend Mr. W. Morris, of Petworth, who has authorized me to mention his name. This case was considered an example of melanosis of the skin, a case of pityriasis nigricans, an instance of congenital syphilis, &c. When the young lady was brought to me by Mr. Morris, I found the skin on the face, the temples, and sundry parts of the front of the body, covered with patches of a dark brown or black secretion, which could not be removed with water or spirit, or such an amount of friction as could be applied to it, owing to the tenderness of the surface, according to the patient's account. In short, a marked state of hyperæmia cutis existed; so that when I took a piece of flannel to rub the part with a mild preparation of soapsuds, the procedure could not be endured. However, the young lady said she could bear the use of a camel-hair brush, which she thought I had dipped in water, though in this instance I was the deceiver, as pure ether was substituted; when I found, not to my surprise but to that of my patient, that the ether washed off the black pigment, leaving the skin *fair as a lily*—the compound staining the skin being candle-black and grease. My attention was now drawn to the thighs, on which were sundry ecchymosed patches; these I perceived were produced by so many dexterous pinches with the young lady's thumb and index finger. The patient did not resent, as is usually the case, my exposure of the simulation, which was done in as delicate a manner as I could contrive, viz., by saying nothing, but holding a hand-glass before her face, as soon as the parts affected had been cleaned by the ether, which, after a moment of astonishment, caused, on her part, a fit of hysterical laughter, as she professed to think herself cured. My friend Mr. Morris wrote to me some time afterwards to tell me that the 'black girl' had also been cured of her hysteria, and that she continued 'fair as a lily;' at the same time permitting me to use his name in reciting the case, and inclosing (but not of course for publication) a bundle of prescriptions, letters, &c., of the various eminent authorities whom she had consulted.

"The fourth case which I will mention is more striking in its peculiarities than the preceding; it was that of a young lady of good position, living in the centre of the coal and iron-stone district of the midland counties. She brought to me a letter from her medical attendant, who mentioned that the disease was of a most anomalous nature, and that it had baffled all the treatment that had been brought against it, both by himself and numerous others, specialists as

well as general practitioners, stating besides, 'that since I have known Miss ——, she has been the subject of hysteria in a variety of ways, at one time assuming the form of a loud barking cough, existing for months; at another, diarrhœa, which nothing could relieve; then, again, hysterical aphonia, which lasted, I think, about six months,' &c. When the young lady presented herself, with her nurse, to my observation, I found an anæmic young woman, about twenty-two years of age, whose face and front of her neck were nearly covered with a thick black incrustation, which was affirmed both by the patient and nurse to be coagulated blood that had oozed from numerous minute points beneath the incrustation, and had congealed into the form and substance which her present appearance presented. Her medical man had also written to me: 'I have carefully removed a portion of this incrustation from the face, it then not being so thick as the last two months, and, with a sponge and warm water, got down to the surface, and distinctly saw *myself* an oozing of blood take place from several small points, and this continued for some hours in spite of applications which were then made to prevent the incrustation forming again; this washing was also practised by Mr. ——, who had been previously consulted.' Such being the statement of the young lady's case, I found that the appearance verified, as far as the eye was concerned, all that had been said about it; yet to the practised observation of any one familiar with cutaneous diseases the sham was at once evident; but how to convince the patient and her attendant, by the removal of the incrustation, that her sham was discovered? This, I confess, appeared to me at first sight no easy matter, as the same tenderness of surface manifested in the former case, was also a conspicuous symptom in this; to gain time, therefore, as the patient was prepared to stay awhile under my observation, I prescribed an acid chalybeate aperient and a lotion composed of equal parts of glycerine and rose-water, to be kept constantly applied warm, by means of wetted linen, to all affected parts. On my patient's visit the next day, I found that the glycerine lotion had softened, and partially brought off, the incrustations in many places, but that a portion of the crust had evidently been replaced; she moreover said that the lotion did not agree, &c, and that it had been discontinued through the night. I therefore had recourse to another application, which, like glycerine, I have had the pleasure of first introducing to my medical *confrères*, and which, like the former agent, has been admitted into the *British Pharmacopœia;* I allude to flexile or elastic collodion.[1] With this, by means of a large camel-hair brush, I painted over the whole of the patient's incrustation, so as to exclude the air and prevent evaporation, which the elastic collodion effectually accomplishes, as it dries rapidly upon a moist surface; lest, however, any portion should require a second application, Miss —— was furnished with a second supply of collodion: this precaution proved needless, for the next day I found that although there had been an addition to the incrustation over some parts of the elastic varnish, the mass beneath had become completely softened, owing to the prevention of evaporation from the substance itself, as also to that of the natural perspiration of the cutaneous surface. With very little effort, I therefore removed from the face and neck the entire mass, which together weighed upwards of three-quarters of a pound. This mass is still in my possession, and consists not of coagulated blood, as was supposed, but of softened extract of liquorice, minute hairs and cutaneous scales, as I informed myself of by the smell and general appearance, and Mr. T. Taylor, the chemist, by special analysis. Thus ended the case, which, however, was most strenuously denied and resented by the patient and her nurse, whom I aftewards believed to have been her accomplice, and also by her friends, and, I regret to add, by her medical attendant, who, in a letter subsequently written, professed to believe 'that if the liquorice had been put on (?), it had been done not to simulate or deceive, but to "stanch the bleeding."'

"The fifth case to be mentioned is that of a servant girl, who suffered from an obstinate ulcer on the left arm, in the situation in which an issue was gen-

[1] See papers on Glycerine in the *Medical Times* of 1845, 1846, and 1850; and on Collodion, and its Improvement, "Elastic Collodion," *Medical Times*, 1845, vol. xix.

erally placed when these emunctories formed therapeutic agents more frequently used than is at present the case. As the ulcer would not heal, I fixed the arm to the side by means of a cushion in the armpit, and the ordinary bandage for fractured clavicle. In the short space of less than three weeks the wound healed by simple dressings, and I lost sight of the case.

"In the same establishment—Messrs. Maudsley's, the engineers, where this patient was employed—another instance of simulated disease originated, illustrating what has often been observed, the seeming contagiousness of imitative diseases. This young lady's maid, otherwise in good health, was troubled with a most obstinate inflammation of the eyes, with great intolerance of light, that resisted all means employed for its cure. She was sent to me on the credit of her companion's cure. I found some degree of inflammation of the conjunctiva lining the eyelids, produced probably by some agent of the patient's contriving. After a short ineffectual trial of the ordinary remedies, I advised her to seek the services of the Eye Infirmary, where she attended some time until the sham was worn out.

"The sixth case occurred to me a few years ago, and was that of a young hysterical female in the middle ranks of life, who spoiled a large amount of linen in consequence of profuse perspiration of a dark or black color; this I found to be a solution of soot in milk or tea, which opinion was confirmed by my esteemed friend, Mr. Jonathan Hutchinson, whom I asked to put a portion of the linen under the microscope, who thus wrote in reply:—

"My dear Sir,—I have examined carefully the portion of stained calico sent me, and can make nothing of it more definite than that the black material is probably some form of charcoal, as soot, coal, or lampblack; it is non-crystalline, amorphous, quite insoluble in ether, liquor potassæ, or strong hydrochloric acid. If the question as to its nature is an important one, I would not like to give a positive opinion, as my examination has been unavoidably hurried, and has omitted several tests which I should have liked to have tried, had I had time. "Believe me, my dear Sir, yours very truly,

"'Jonathan Hutchinson.'

"The seventh case to be mentioned is that of a chlorotic attenuated young girl of seventeen, who for some chest-affection, real or imaginary, had been an out-patient of the Consumption Hospital, where she had been supplied with a blistering liquid, to produce small flying vesications on the chest. Whilst under this treatment, a series of what were termed whitlows appeared in succession on the fingers of both hands, and as soon as one was well another finger became affected, thus producing a case of artificial pompholyx benignus, on which account she was brought to the Blackfriars Skin Hospital. When she presented herself there were four fingers affected, three on the left hand and one on the middle finger of the right. I punctured these bullæ, as is my usual practice, and applied a piece of litmus paper, when the reaction, contrary to what is almost constantly the case, was vividly acid; hence I suspected simulation was employed, which the history of the blistering application, probably acetum lyttæ, before mentioned, verified. It is probable that, in the first instance, the blistering was accidental; and, from the hysterical *penchant* for creating pity and interest in the girl's surroundings, it was continued until exposed.

"The eighth case was a form of alopecia in a little girl between eleven and twelve years of age, the daughter of highly respectable parents of the Hebrew persuasion. In this young lady the hair in the front of the head would not grow: after using various pomatums, washes, &c., it would sometimes attain half an inch to an inch in length, when it would, as stated, suddenly fall or drop off, leaving little more than an irregular crop of stumps. I at once told the medical man who kindly called me to see the case, that as I knew of no disease having these characteristics, the scalp being quite sound and healthy, I suspected some trick or morbid infatuation, but that I would not give a decided opinion until I had put some of the hairs, or rather the stumps of the hairs which had fallen, or had been cut the night before my visit, under the

microscope. The half-inch lens of this instrument revealed the mystery; that the hair had been cut, probably with a penknife or razor, the incisions being too smooth for scissors, was as plainly evident as the marks of a knife on a divided piece of wood. This fact I wrote at the request of my medical friend, that he might show the parents of the child, who, as usual, were in no wise content, as will be seen from the letter which I subjoin, shortly afterwards received by the medical man:—

"'My dear Sir,—You will probably remember visiting with me in —— Square a Miss ——, and kindly writing your opinion of the cause of loss of hair. The parents of the child have since that time taken the opinion of Mr. ——, who says that he frequently meets with similar cases; that the loss of hair is caused by the child having grown too fast. He says most decidedly that the child did not herself cut the hair. I thought it well to let you know Mr. ——'s opinion, which has reflected some discredit both upon yourself and also upon

"'Yours, faithfully,

"'A. W.'

"A ninth case is that of a girl employed in a lacquering establishment, who presented herself with an anomalous ulcerative eruption on one forearm; the ulcers appeared in a clustered circular form, chiefly as large or a little larger than a sixpence, and they were deeply concave, though granulating freely from their base. Some of these ulcers had healed, and presented raised cicatrices like those following burns, or resembling 'keloid.' No previous history could be obtained of the case, which had been about a year in duration, beyond the fact that the ailment had been slow in its progress, and as one part healed others appeared, so as to necessitate the girl's discontinuance of her employment, and obliged her to live upon the earnings of a lone widowed mother. On witnessing this eruption, and observing the discontented hysterical aspect of the girl, I felt convinced some caustic agent had been used; and when I remembered that nitric acid was copiously employed by lacquerers, I was convinced that this liquid had served the patient's purpose. After confining the arm with strapping until the sores healed, I extorted a reluctant confession that my surmise was correct. I believe there is, or was, a model of a similar case to the foregoing amongst the preparations of cutaneous disease at Guy's Hospital Museum. I may here mention also that I learned from this case, and another where Mr. Syme used nitric acid to remove moles from the shoulders of a lady of rank, that this caustic might occasionally be employed with advantage to improve the appearance of cicatrices in the neck and elsewhere, when attended with depressions or concavities, as it has the property of giving rise to granulations that partially obliterate such scars.

"The tenth and last case which I shall bring forward is that alluded to at the commencement of this paper—viz., simulated lupoid ulceration of the face. This young lady, a Miss ——, about twenty-seven or twenty-eight years of age, residing in the suburbs, has been my patient, on and off, for two years, and has baffled all my efforts to obtain a cure. Sometimes after the simplest dressings the sores will heal, and remain sound for a week or two; at other times the more powerful caustics—the acid nitrate of mercury, for example—have been required to induce the healing process. The patient confesses that in most instances she gives rise to those sores by picking the affect parts. She states 'that a small lump is felt beneath the skin, which she must have out, as the itching is quite intolerable.' A sore forms in these places, and leaves a more or less unsightly scar, which it takes some weeks to heal, only to be followed by other picking, ulcers, and unsightly scars, which I have no doubt have been continued and maintained by some expedient the fertile imagination of Miss —— has suggested. This young lady has for years been suffering from hemorrhoids in an aggravated form; she also is afflicted with profuse leucorrhœa. I have attended to these symptoms as the probable cause of the facial complaint. The acid nitrate of mercury has been freely applied to the piles, and potent chloride of zinc injections for the leucorrhœa; but although both these ailments have been mitigitated, if not cured, by these means, yet no change in the

facial ulceration can be traced to their disappearance. One extraordinary fact, however, has lately come to my knowledge—viz., that during my prolonged and painful sufferings from stone and its consequences, including lithotrity and lithotomy, Miss ——'s face has continued healed; but since my return to my avocations, the old malady has again manifested itself in as obstinate form as ever—hence I have included the case amongst those cited of feigned or hysterical disease of the skin."

Art. 64.—*Constitutional Treatment of Diseases of the Skin.*

By J. McCall Anderson, M.D., Professor of the Practice of Medicine in Anderson's University, Physician of the Royal Infirmary and to the Dispensary for Skin Diseases, Glasgow.

(*The Lancet*, March 19.)

Purgatives or aperients, Dr. Anderson says, are of service in at least one-fourth of all skin diseases, at the outset at all events; and many can be cured by the exclusive use of them. This is especially true of the eczematous group when seen in the early or acute stage, and when associated with digestive derangement or constipation. In doubtful cases it is safer to inaugurate the treatment with aperients; but it must never be forgotten that where debility is well marked, or where there is a decided tendency to ulceration, great caution is required in the use of purgatives. In the employment and selection of purgatives and aperients we must be guided by general principles.

A very excellent aperient is the well-known sulphate of magnesia and sulphuric acid mixture; to which, if there is a gouty tendency, a little wine of colchicum, or, if anæmia, sulphate of iron, may be added as follows: Sulphate of magnesia, three ounces; dilute sulphuric acid, an ounce and a half; sulphate of iron, three drachms; simple syrup, six ounces; syrup of ginger, one ounce; infusion of quassia to twenty-four ounces; a tablespoonful, in a good deal of water, three times a day.

Another very useful tonic aperient, especially if the bowels are easily moved, and if there are indications of nervous debility, is the following: Phosphate of soda, three ounces; dilute phosphoric acid, two ounces; syrup of ginger, six ounces; compound infusion of gentian, eight ounces; distilled water to twenty-four ounces: shake the bottle: a tablespoonful, in a large wineglassful of water, to be taken three times a day.

In each case the dose must be so regulated that the bowels are kept freely open. If purging is induced, it must be diminished; while, if the bowels are not acted upon, a pinch of sulphate of magnesia may be added to each dose in the case of the first prescription, a little phosphate of soda in the second.

In acute cases, one or two full doses of calomel, followed by castor oil or a seidlitz powder, is often beneficial at the outset; but prolonged purgation must in every case be avoided, for although it may remove the eruption for a time, it returns whenever the treatment is stopped, and, by weakening the patient, may indefinitely prolong the disease.

We are told that sulphur is the great blood depurant in the case of diseases of the skin; but Dr. Anderson has as little faith in it when administered internally as when used as a local application. When it does good, it is generally in virtue of its purgative action; while it has this drawback, that it is converted into sulphuretted hydrogen, so that the secretions have a disagreeable odor. It is usually given in electuary with acid tartrate of potash, but it is better to prescribe one of the natural mineral waters containing it; and the fact that some of these do not act as purgatives must not be taken to disprove my assertion with regard to the *modus operandi* of sulphur, for the benefit which accrues may be due to the combination of salts held in solution. Those of Harrogate and Moffat in this country, and of Aix la-Chapelle, Enghien, Barèges, and Luchon on the Continent, have the greatest reputation in this respect; and while some of these waters may be had from the chemist, it is always more judicious, when it can be effected, to send the patient to the spring itself, for

he is thus certain to get the waters fresh and pure, and, away from home and the fatigues and anxieties of business, his body is at the same time invigorated and his mind refreshed.

Diuretics are indicated if the kidneys are torpid, especially in the treatment of the erythematous and eczematous group, and in acute cases. Their diuretic action, however, does not always account for the good result observed: thus alkaline diuretics, such as the bicarbonate of potash, or neutral (which in the system are converted into alkaline) salts, such as the acetate of potash, probably do more good in virtue of their alkaline reaction. And this leads the author to remark that *alkaline medicines* are especially useful in the treatment of skin diseases occurring in rheumatic and gouty subjects, and in persons who are martyrs to acidity, or in whom there is a tendency to the deposit of uric acid and of urates in the urine. The alkaline and neutral preparations which are most used are salts of potash, such as the acetate, bicarbonate, and citrate; but, if a stimulant is required, Dr. Anderson generally prefers the carbonate of ammonia; and it will often be found of advantage to combine these remedies with arsenic, or, if there is a gouty tendency, with colchicum: Carbonate of ammonia, one ounce; solution of arsenic, three drachms; syrup of ginger, six ounces; infusion of cascarilla to twenty-four ounces. A tablespoonful in half a tumblerful of water three times a day, after food.

It must never be forgotten that alkalies should be given largely diluted, and also some time before food, for although the administration of a small quantity of an alkali seems to cause an increased flow of gastric juice, a large quantity may neutralize its acidity. The dose should be so regulated as to keep the urine constantly alkaline, as tested with litmus paper; and the medicine should be steadily continued, unless it disagrees, until some time after the disease has disappeared.

Sedatives and narcotics are indicated under the same circumstances as in the treatment of disease of other organs. Dr. Anderson reminds us—and the remark applies not merely to skin diseases—that sleeplessness is often the result of debility, in which case tonics, especially iron and arsenic, are the best narcotics. Sedatives and narcotics are of no use for the relief of irritation of the skin, except in so far as they may induce sleep; indeed, if they derange the stomach they are very apt to increase the irritation.

But, as is well known, opium in small doses, frequently repeated, is of value in the treatment of affections of the skin occurring in broken-down subjects, especially in cases of ulceration; but then they do good in virtue of their stimulating, rather than of their narcotic properties.

In genuine cases of urticaria perstans—that is, nettle-rash—recurring from day to day, and from week to week, when it is independent of local causes, and when no constitutional derangement (disorder of the digestive organs or the like) is present, sedatives are sometimes curative, especially bromide of potassium in full doses.

Lastly, it need only be mentioned that the neuralgia which so frequently accompanies and follows attacks of zona (shingles) is best relieved by the subcutaneous injection of morphia.

Cod-liver oil is indicated in the treatment of strumous diseases of the skin, although it is of more value in preventing fresh outbreaks than in removing existing manifestations.

Cod-liver oil is also indicated in the treatment of skin diseases, although they are not strumous, provided they occur in strumous, half-starved, or broken-down subjects.

In dispensary practice we are often consulted by persons who have long been out of employment, whose diet has been very defective, and whose bodies are infested with lice. The use of cod-liver oil in full doses, without the use of parasiticides, often removes the disease by supplying the place of a nourishing diet.

If cod-liver oil is taken greedily by infants, it is almost certain to do good, although the reverse does not hold.

Dr. Anderson differs from Hebra, who limits the value of this medicine to

the treatment of strumous diseases; and from many others who, on the other hand, laud it in the treatment of an immense number of cases of skin disease.

It is unnecessary, Dr. Anderson adds, to dwell upon the use of *iodine and its compounds*, as these are indicated in the same class of cases as cod-liver oil. Of course this remark does not apply to the iodide of potassium.

Art. 65.—*On Prurigo.*

By Erasmus Wilson, F.R.S.

(*Medical Times and Gazette*, December 11.)

The following case is related by Mr. Wilson :—

"A respectable widow, aged sixty-eight, was brought to me by her daughter on December 4, 1869, suffering under prurigo. Her medical history is as follows: She had always been healthy until the month of June in the present year, when she had a short attack of ordinary summer cholera. On her recovery from the cholera, she was troubled with a papular pruritic eruption in the sternal groove of the front of the chest, and, at the same time, with pruritus of the fingers and hands; and the pruritus extended in a short period to the whole surface of the skin. Her skin is naturally sensitive, and she has never been able to wear flannel underclothing.

"At the present the skin of the whole body, with the exception of the face and scalp, is inflamed and irritable; it is red, dry, wrinkled, brownish in hue, hot, and harsh to the touch, somewhat infiltrated, roughened by desquamation on the limbs and hands, and covered with black scabs, scratches, and bleeding spots, caused by tearing with the nails. In two situations these appearances are more abundant than elsewhere, possibly from facility of reaching them with the nails—namely, on the scapulæ and buttocks. But, with all this local mischief, there is little disturbance of her general health—scarcely more than a sense of weariness from loss of rest and nervous exhaustion occasioned by the violence of the fits of itching. Her application for relief has reference to the pruritus of the skin, of which she complains bitterly. It comes on by paroxysms, and of these she may have as many as twelve in the course of the day; she considers herself fortunate when she has only two or three. The itching is, in fact, a kind of torture. She says that her body feels at the time of the attack like a 'fire-coal;' that the itching is maddening; and, under the impulse of the fiercest suffering, she tears—the term 'scratches' is not strong enough—she tears her skin with her nails until the blood flows from the excoriations. She observes that formerly the skin rose into whitish knobs whenever she scratched, but that latterly the skin excoriates under the process, and shows a tendency to desquamate, the desquamation extending to the palm of the hands and to the sole of the feet. She is correct in this observation, for the pathological state of the skin is undergoing a transition from the more chronic form of prurigo to the more active state of dermatitis with its accompanying exfoliation.

"The neurotic characters of the affection in this poor woman are so obvious as to be calculated to strike the attention of the most unobservant; nevertheless, she has been subjected to examination, and disgusted with the inquiry, as to the possibility of the dependence of the irritation on lice. Of course no lice were found; but, nevertheless, she was submitted to the action of a sulphur vapor bath three several times. The sulphur vapor baths very much increased her sufferings; they made the skin tender and stiff, and to them may be attributed the drifting into dermatitis, with which the case is at present complicated. At no time have lice been discovered on her person, nor is there the least ground for any such suspicion. She resides with her daughter, with whom she is constantly in contact, and has free intercourse with her grandchildren; but no lice have ever been detected in any of the family, and there are no symptoms of cutaneous irritation among any of its members. The case is plainly one well recognized by the best dermatologists—namely, prurigo—and is, very clearly, a cutaneous neurosis."

ART. 66.—*The Local Treatment of Eczema Rubrum vel Madidans.*

By JOHN KENT SPENDER, M.D. Lond., Bath.

(*British Medical Journal*, April 9.)

The two points which require attention are—(*a*) to apply something which cures as well as soothes; (*b*) never to put over that application any impervious covering.

"*Eczema rubrum* is very common on the skin of the leg and of the ankle, and is often connected with varicose veins. The irritation which it causes may be alleviated by dusting the part with dry astringent powders, and by painting on the pharmacopœial preparations of glycerine; but it is seldom that a cure is effected in either case. Ointments of every kind are hurtful. After many trials of various remedies, I found, some years ago, that the common black wash (lotio hydrargyri of the *Ph. B.*) is a very effective application. I mix it with a tenth or twelfth part of glycerine by measure, and then shake it well. A small quantity of this mixture being poured into a wide shallow vessel (as a saucer), strips of linen rag are soaked in it; and, after being lightly squeezed, are placed evenly and smoothly round the affected part of the limb, a portion of the black oxide of mercury adhering to the linen. Each strip should overlap the one above by nearly a quarter of an inch, so as to present an uniform surface covered by the dressing. A *thin* calico bandage will secure everything in its place, and keep it so. Between the dressing and the bandage there should not, on any account, intervene any impervious covering, such as oiled silk or a sheet of gutta percha. Such may appear to have the immediate advantage of preserving the moisture of the linen; but the disadvantage is decided and obvious—that the secretion of the diseased skin is prevented from evaporating, and it rapidly decomposes. Hence, not only is the eczema not cured, but fresh tracts of skin are liable to inoculation. A large area of the limb may become red, hot, and spongy, thin serum streaming out at every pore; and probably the limb is enlarged by œdema of the subcutaneous structures. Renew the dressings twice a day, and no harm follows their becoming dry, provided that they are completely saturated with warm water before removal. They are then easily taken off without hurting the patient or damaging the healing skin. Since 1860 I have treated a number of cases by the method now related, and I have been successful in all but three or four. And the defiant behavior of these few suggested the application of a strong nitrate of silver solution before putting on the linen steeped in black wash; and this plan answered completely.

ART. 67.—*Employment of Phosphorus in Psoriasis.*

Under the care of Professor HARDY, of the Hôpital St. Louis.

(*The Lancet*, February 19.)

Of late several experiments with phosphorus have been made in the various hospitals of Paris. It has been tried in some cases to which it had not until now been applied. Amongst others we may just mention the employment of phosphide of zinc in locomotor ataxy, and phosphorus in psoriasis. This last trial is due to Professor Hardy, the well-known dermatologist. Professor Hardy had previously employed the substance in similar cases, and had renounced its use; but during the last few months he has resumed his researches. There are now five patients in his wards—three female and two male—subjected to this mode of treatment. One of the female patients, aged sixteen, and affected with general psoriasis, has taken every day since December 16th a teaspoonful of the following compound: Oil, 150 grammes; phosphorus, 10 centigrammes; and has been rubbed every night with a pomade composed of—hog's lard, 100 grammes; phosphorus, 1 gramme. Under the influence of this treatment the scales have completely disappeared. No unusual symptom has been observed.

The other two females have not taken the substance internally, M. Hardy having limited the experiment to friction with the pomade. The amendment is, however, obvious, though the scales have not yet entirely disappeared. The treatment was commenced in the beginning of January.

With regard to the two men, the entire plan of treatment, internal and external, was instituted about a fortnight ago. They are also doing exceedingly well.

This mode of treatment deserves to be noticed on account of its novelty, and of the extremely favorable results which it has afforded until now. It requires, however, to be more extensively employed before any definite judgment can be formed. It also remains to be seen how it will turn out as compared with the other medicaments which are now generally employed here, such as cade oil, tar pomade, nitric-acid pomade, &c. Another point which requires to be settled is whether psoriasis will return after a successful course of treatment, and, if so, at what interval. This can only be decided by time.

ART. 68.—*On the Treatment of Psoriasis and Chronic Eczema by Hypodermic Injections of Arsenious Acid.*

By M. LIPP.

(*Archiv für Dermatologie und Syphilis*, No. 3, 1869.)

The author of this contribution reports three cases:—

CASE 1.—A man, thirty-three years of age, affected with psoriasis since 1865, and in 1866 treated for seven weeks with Fowler's solution, was admitted in October, 1868, with large patches over the whole body, chiefly upon the trunk, the feet and hands alone being untouched. In the course of forty-eight days, this patient was injected with forty-four centigrammes of arsenious acid; fifteen days after the last injection the old patches had disappeared without any trace, save small yellow or brownish spots; four fresh patches, however, were developed on the left thigh, the chest, and the back; these were pale and desquamated but slightly.

CASE 2.—C. R., aged twenty years, had suffered from psoriasis since 1866; the affection commenced in the knees and legs, and then invaded nearly the whole surface of the body; in October, 1868, the scalp and forehead were covered by patches. In the course of thirty-eight days, twenty-two and a half centigrammes of arsenious acid were injected; the eruption on the legs, forearms, thighs, arms and the lower part of the trunk, was reduced to spots of a pale brownish-yellow color, and totally disappeared from the superior part of the trunk, the neck, the ears, and the scalp. About fifteen days after the last injection several fresh spots arose on the trunk and forearms.

CASE 3.—This case was one of the squamous eczema extended over the whole body. The patient was thirty-three years of age. When an infant he had had eczema on the legs. In 1863 a severe eruption necessitated a sojourn of ten weeks in a hospital. In 1868 there was a fresh eruption on the right leg; in the winter of the same year this increased very much in consequence of an excess of wine; in February, 1869, the scalp, the neck, and the trunk were covered by patches; at this period there was fever, with evening exacerbations. In the course of forty-two days he was injected with eighteen centigrammes of arsenious acid, and the eczema entirely disappeared.

In three other cases injections were applied, but not alone.

M. Lipp made use of two injections, one containing twenty and the other forty centigrammes of arsenious acid to thirty grammes of distilled water. The quantity of acid injected varied from two and a half milligrammes to two centigrammes daily; this latter dose was employed only once. The injections were made upon the trunk, chiefly in the lower part of the back; they excited a slight burning sensation, which rapidly disappeared, and slight irritation; there was never any formation of abscess, as after injections of corrosive sublimate or calomel.

The first effect of the injections in cases of eczema and psoriasis is an increase of the desquamation; the eruption becomes less distinct both in form and color at the end of the seventh or tenth day; at a later date the infiltration

and proliferation of the epidermis are arrested, and there remains but a slight pigmentation, which disappears in its turn.

The symptoms amend at first in those parts where the eruption is least severe; amelioration takes place sooner on the neck, the chest, the scalp, and the upper part of the back, than in other places.

The following are the general symptoms produced by the injections: Elevation of temperature, acceleration of the pulse, diminution of appetite, increase of thirst and diuresis, nervous excitation, cephalalgia, vertigo, cough, slight oppression, redness of the conjunctiva, &c. Some of these symptoms became more marked as the dose of arsenic was larger. They all disappeared (with the exception of the acceleration of the pulse) as soon as the injections had been diminished in the quantity of the dose, or quite suppressed. An increased frequency of the pulse was more constant than elevation of temperature.

In two of the above reported cases there were relapses; the injections therefore acted but as pallatives.

With this method of treatment, M. Lipp states, one is certain of the absorption of the medicinal agent and of the preservation of the digestive organs from its action; the required doses are less powerful, and the duration of the treat ment is shorter.

ART. 69.—*Cutaneous Eruption resulting from the Administration of Bromide of Potassium.*

By WILLIAM CHOLMELEY, M.D., M.R.C.P.

(*Medical Times and Gazette*, December 11.)

At a meeting of the Clinical Society, held November 26th, Dr. Cholmeley brought before the Society the following case, in which the cutaneous eruption which occasionally results from the administration of bromide of potassium presented unusual characters: H. C., a pallid, dark-haired Scotch lad, of leuco-phlegmatic temperament, aged thirteen, was admitted into the Great Northern Hospital on August 30, 1869, for epilepsy. The bromide of potassium was given in ten-grain doses three times a day, but without benefit. On September 20 Dr. Crucknell, who had charge of the patient during Dr. Cholmeley's absence from town, determined to try the salt in larger doses, and, beginning with fifteen grains, quickly increased it to twenty-five grains three times daily. Marked improvement as to the epilepsy immediately followed, but on September 26 an eruption appeared on the patient's face and legs, and quickly became copious and very painful; at the same time there was general malaise, with pain in the head, and the fits became more frequent. The bromide was then discontinued, and nitrate of silver given. The eruption was described as being "like varicella, but that the vesicles, instead of drying up, became in many places confluent, and the clusters thus formed showed a tendency to enlarge, and exhibited numerous points of suppuration." When Dr. Cholmeley again saw the patient—October 18—he had a band of eruption up each side of the face and across the forehead, while the front and outer side of each leg was covered with it from knee to ankle. On the face it consisted of irregularly circular, elevated, flattened, light-brown crusts, varying in size from a pea to a fourpenny-piece, surrounded by slightly red areolæ, and so adherent that they could not be removed without causing bleeding. On the legs the eruption was in a more active condition; the skin between and around the spots was vivid red, exquisitely tender, hot, and painful, the pain being of a burning, tingling character. Movement of the legs caused very severe pain; the smallest spots, which were also the most recent, consisted of circular, elevated, conical vesicles filled with a milky-white semi-fluid matter, and seated on a slightly elevated hardened base; the largest spots were from one to two inches long, irregularly oval or oblong, elevated, flattened on the surface, and covered with flaccid moist cuticle, or light-brown crusts, under which the surface presented "numerous milletseed-like yellowish-red prominences." Dr Cholmeley had never seen a like eruption, but from careful observation was convinced that it was a severe and confluent acne

excited by the bromide of potassium. The eruption began by a minute, red, hot, and tender pimple, on the summit of which there very quickly formed a small yellowish-white, tense, conical vesicle, pierced by a hair; if the vesicle was ruptured and gentle pressure applied, a smooth yellowish-white substance was obtained, which proved to be sebaceous matter with the bulbous root of the hair; if the vesicle was let alone, it rapidly enlarged, and then was found to contain pus. The crusts of the older spots were partially dissolved by ether, which on drying left a greasy stain, while the remaining portion of the crust was found to consist of epithelium and damaged pus-cells and blood-corpuscles. When the eruption had after seven weeks nearly died away, the bromide was again given in full doses, and on the sixth day the eruption began again to come out very actively, most on the legs, movement being again very painful. Dr. Cholmeley remarked that while it was well known that acne sometimes appeared during the exhibition of the bromide, it was not with us a very common occurrence. In France it seemed to be much more common, and some French physicians, as Voisin and Falret, expected its occurrence in every case, at least where the patient was epileptic. Voisin had described five forms of eruption as induced by the bromide, and his fifth form closely resembled that in the present, only being much less copious. Voisin had seen six cases of it. But in France the bromide is given in much larger doses than with us, from 7 to 9, 10, and even 11 grammes being given daily, and for long periods. Lastly, as showing the bromide to possess a stimulating power over the cutaneous structures, Dr. Cholmeley had seen an obstinate, long-continued acne disappear entirely while bromide of potassium was being taken for a nervous affection.

Art. 70.—*Pathology of Alopecia Areata.*

By Professor Rindfleisch.

(*British Medical Journal*, March 19.)

Professor Rindfleisch, of Bonn, contributes a paper on this subject to the *Archiv für Dermatologie und Syphilis*. He starts with the assumption that the Microsporon Audouini has been proved by Pincus and others to be a myth, and that the parasitic nature of the disease has been inferred from the analogies which its development and clinical characters present to those of truly parasitic dermatoses. He proceeds to show that its characteristic features may be accounted for in a different way. It has long been noted that the margins of the affected patch in alopecia areata are devoid of those broken hairs which are conspicuous in tinea tonsurans: also, that there is a general thinning of the hair over the whole scalp. The former peculiarity is accounted for by the solution of continuity in the case of each individual hair taking place at the junction of the lower and middle thirds of its intra-follicular portion. The latter suggests that the operation of the morbific cause is not confined to the bald patches. A temporary malnutrition of the root of the hairs suffices to explain everything. Each hair, in emerging from its follicle, has to overcome a certain amount of resistance offered by the superficial layers of its sheath. Under normal conditions, the continuous cell-proliferation at the root supplies the needful *vis à tergo*. If this, however, undergo a temporary check, the hair ceases to advance, and the opposed surfaces of hair and sheath become adherent. Just below this point is the atrophied tract of the hair. When any such hair is pulled, therefore, it breaks at the bottom of its follicle, and carries with it a considerable part of its sheath. The causes of the malnutrition are to be sought in some influence brought to bear upon the trophic nerves. Sudden cooling of a perspiring scalp has been known to precede alopecia areata. Treatment based on these considerations has proved successful. A lotion consisting of equal parts of tincture of capsicum and glycerine is applied to the affected area: the former ingredient, with a view to stimulate nutrition and promote the growth of new hairs; the latter, to soften the adhesion between the hair and its sheath, and to facilitate its extrusion.

Art. 71.—*Elephantiasis Arabum.*

(*Report on Dermatology, in New York Medical Journal*, Jan. 1870.)

Among the more positive practical advances of recent date may be mentioned the fact, now so well established, of the marked influence exerted upon a limb affected by elephantiasis arabum brought about by arresting the circulation through the main artery of the part. Many successful cases have been reported during the last few years. Ligature of the artery has been usually resorted to, but that this is not always neeessary, is proved by Vanzetti's case,[1] where a cure was effected by digital compression alone.

The last summary on the subject is given by Dr. Fisher,[2] of Hanover, who tabulates the cases which had occurred, twenty-one in number. Out of these eleven are reported cured, nine entirely, and two very nearly. In two cases there was improvement. In seven no improvement or death was the result; and one, Vanzetti's case, was cured by digital compression. The table proves that this method, although not necessarily successful, is yet an improvement on the treatment previously in use. The idea of curing elephantiasis by interrupting the circulation of a limb originated, it appears, with Dr. Dufour, since, in an article written by him in the *Gazette Hebd.*, 1863, he states that his first attempts in this direction date back thirty years; in other words, he was already experimenting the idea in 1833.

SECT. III.—FORENSIC MEDICINE.

Art. 72.—*On Metallic Poisoning.*

By E. D. Mapother, M.D., Professor of Physiology R.C.S.I., Examiner in Surgery to Queen's University, and Surgeon to St. Vincent's Hospital.

(*Medical Press and Circular*, April 27.)

At a meeting of the Surgical Society of Ireland, held April 1st, Dr. Mapother read a paper on some of the forms of Metallic Poisoning. In the course of his communication he detailed cases illustrative of the toxic effects of lead, mercury, copper, and zinc, among tradesmen. In one instance of lead poisoning, a peculiar stammer, or psellismus, was observed. The marone gum-line discovered by Corrigan was present in the copper cases, one of which was due to the inhalation of Olympian green, a carbonate of copper, in painting Venetian blinds. The zinc was inhaled as oxide in brass foundries, and aguish symptoms were constant. In another case, mercurial symptoms followed the rubbing in of half a drachm of unguentum hydrargyri, for the killing of lice. It should be mentioned, however, that the patient was taking iodide of potassium at the time. Dr. Mapother was of opinion that all these metals entered the blood as *chlorides*, into which they were changed by the gastric juice, and that they spoiled the blood by coagulating the hæmatoglobulin. The loss of red cells explained the pale color, local palsies, especially of the muscles least used, such as the extensors of the forearm and the abdominal muscles, the impairment of the senses, and the neuralgic pains of those poisoned. The colored gum was probably due to the reduction of the chloride of the metal caused by the chemical rays of light, for it was never noticed round the molar teeth, which were not exposed to them. Blood restoratives, above all a milk diet, baths, and iodide of potassium, were urged as both curative and preventive agents. The use of a respirator too, lined with cotton-wool and kept on by a piece of wood, which necessitated the closure of the mouth, was advised in some of the trades.

---

[1] *Gazette des Hôpitaux*, 1867.

[2] *Virch. Archiv*, 46, 3, p. 328.

Art. 73.—*Case of Poisoning by Ergot.*[1]

By G. S. Oldright, M.D.

(*Canadian Medical Journal*, March.)

In the case related by Dr. Oldright, the ergot was given three days after delivery, to control secondary hemorrhage. The loss of flooding was very slight. About two hours or more after the administration of the ergot the patient began to feel a tingling in the fingers and feet, cramps in the legs, arms, and chest, dizziness and weakness. The pupils became dilated, and the pulse very small, and, if memory serves, accelerated; at the same time a feeling of coldness was complained of. Stimulants and warmth were applied. In about an hour the symptoms gradually subsided, and all went on well for a few hours, when the same symptoms recurred, but with greater intensity. Stimulants were again administered. Heat was applied to the surface of the body by means of extra bed-clothes, hot bottles, and flannels dipped in hot water. This was continued for two or three hours, and it was not till the end of that time that the slightest diaphoresis, or even a good glow of heat was induced. *Then*, the face and head suddenly became intensely congested, being of a purplish-red color. Pain was felt in the head, and the patient seemed much excited and confused. A brother practitioner was called in, and it being feared that convulsions would occur, cold cloths were applied to the head. This intense engorgement gradually subsided, but the congestion continued for two or three days, as manifested by pain in the head, photophobia, &c. Another symptom which was noticed was a diarrhœa, in which the stools were of a dark gray color, looked as though meal had been stirred through them, and had a peculiarly sickly, indescribable odor. They were accompanied by griping pains. This condition of the bowels was noticed in another case, occurring a few months after, where ergot had been given. Here, also, there had been a good deal of weakness, and a continual recurrence of faintness, but this was attributed to loss of blood during labor and before it, the case having been almost one of placenta prævia.

After alluding to two other cases, not so well marked as that given above, however, of which he had been informed by other medical men, Dr. Oldright dwelt briefly upon the *modus operandi* of ergot in these cases. Wood in his *Materia Medica and Dispensatory* teaches that it is a direct depressant, partially paralyzing the heart and the capillaries. Dr. Oldright did not feel prepared to go very deeply into the question, but it seemed to him probable that its primary action is excitant to the special and sympathetic portions of the nervous system, exciting muscular contraction and increased tenacity of musculo-fibrous and fibrous tissues. Hence the spasms which it causes. In this way it could diminish the calibre of the arteries and capillaries, whilst it would impede (and here we must remember how continuous and unremitting is its action on the womb), the action of the heart, keeping it in a condition of continuous partial contraction. This causes starvation of the brain (as well as of other parts), and at once brings on the second stage—faintness, vertigo, &c. &c. This is soon followed by the third stage of reaction and congestion of the brain.

Amongst a number of arguments the following were adduced: It is inconsistent to attribute to the same drug the power of directly exciting muscular action in one organ, and of directly paralyzing others. Dr. Wood himself confesses, when speaking of the recommendation ergot has received in paraplegia and paralytic conditions of the bladder, that its "applicability in these cases would scarcely be inferred from anything that is known (according to his theory) of its physiological effects." This points to a power of inducing muscular action: so also do the cramp in the legs, chest, &c., which he does not explain. Again, paralysis of the capillaries would not, as Dr. Wood asserts, arrest hemorrhages. He takes it for granted that the capillaries have, *in se*, the power of propelling the blood.

---

[1] Abstract of a Paper read before the Medical Section of the Canadian Institute, Toronto, Feb. 4, 1870.

Art. 74.—*A Case of Poisoning by Aconite.*

By Robert Dunn, F.R.C.S.

(*The Lancet*, January 8.)

At a meeting of the Medical Society of London, held December 13, 1869, Mr. R. Dunn related a case of Poisoning by Aconite, death appearing imminent; but, by the vigorous administration of sal volatile, brandy, and chloric ether, a successful termination was effected, the quantity of stimulants taken in the nine hours being ten ounces of sal volatile, six ounces of chloric ether, one pint of brandy, one bottle of champagne, besides strong coffee and beef-tea.

Art. 75.—*Poisoning by Extract of Belladonna.*

By Hibbert Taylor, M.D.

(*British Medical Journal*, November 20, 1869.)

Dr. Hibbert Taylor, of Liverpool, reports a case of poisoning by extract of belladonna, an occurrence extremely rare. A young collier, sixteen years of age, swallowed by mistake about a drachm of the extract given to him to make a lotion for his eyes. The poison, dissolved in half a teacupful of warm water, was taken at a quarter before eleven P.M., immediately after supper. He afterwards took a little water, does not seem to have slept, and about ten minutes before twelve he suddenly became violently agitated, throwing his limbs about and groaning and moaning. He was apparently unconscious, but did not speak nor attempt to do so. These symptoms continued for an hour and a half without intermission, and his relative says that he was obliged to lean upon his limbs to restrain the violence of his movements. He then became comatose, and so continued until his death, which occurred an hour afterwards, at half-past two o'clock A.M.

The state of the pupil was not ascertained. The brother-in-law says the patient never opened his eyes, but was continually winking or keeping his eyelids nearly closed.

He did not vomit, nor attempt to do so; neither did he pass any urine, nor were his bowels moved. He did not speak at all from the commencement of the attack.

He was not seen by any medical man during life, nor was anything attempted for his relief. His friends were under the impression that he was suffering from a fit induced by the medicine which he had taken, as he had told them before taking it that it would make him ill.

The following report of the post-mortem appearance was drawn up by Mr. John Lea Molyneux, of Upholland, who made the examination eighteen hours after death. The upper portion of the body down to the middle and the upper extremities were greatly discolored, the vessels of the skin being completely gorged with blood, and decomposition had already commenced. The pupils were greatly dilated, and the rigor mortis was well marked. So far as could be seen, there was no external injury. The lungs were gorged, nearly blackened, in fact. There was a little dark blood in the pleural cavities. The heart was healthy: it was empty, except the right auricle, which contained about six drachms of dark semi-coagulated blood. The liver was in a natural condition. The abdomen was considerably swollen. The stomach seemed very fragile and softened in texture, and was very easily broken. Externally, it displayed several slight discolorations, corresponding to dark patches internally. The contents amounted to about a teacupful, in which Mr. Molyneux could not distinguish anything particular, but he did not make an analysis. All the other abdominal organs appeared to be healthy. On opening the skull Mr. Molyneux found the scalp and periosteum very much congested. The membranes and the brain itself appeared to be perfectly healthy, and contained very little blood.

There are only two remarks which should be appended to this case. The first has reference to the extreme rarity of the accident. Instances of poisoning from eating the berries of belladonna are common enough, and we are sufficiently well acquainted with the symptoms induced, but Dr. Hibbert Taylor has only been able to find two examples of poisoning from swallowing the extract. These examples are recorded in *Taylor's Medical Jurisprudence* (p. 359, edit. 1865). The quantity taken is stated to have been a small teaspoonful. In both of these instances the symptoms appear to have been much less violent than in the case above narrated. One patient recovered in two days, and the other is said to have died on the seventh day of some disease.

The other remark regards the length of time which elapsed between the taking of the poison and the manifestation of the characteristic symptoms. The extract was swallowed at a quarter before eleven o'clock, and the symptoms did not appear until nearly midnight, when they seemed to have burst out suddenly, and with extreme violence. May not this delay in the development of the effects of the poison be attributed to the fact, that the patient immediately before taking the belladonna had eaten a hearty supper, and then went calmly to bed—circumstances both apparently unfavorable to the rapid action of the poison?

Art. 76.—*On Essence of Turpentine as an Antidote in Cases of Poisoning by Phosphorus.*

By M. Personne.

(*Journal de Pharmacologie de Bruxelles*, May; *Annali di Chemica*, August; and *Pharmaceutical Journal*, December, 1869.)

M. Personne believes that in the present day phosphorus has almost entirely superseded arsenic as a poison in criminal or accidental homicides. Criminal statistics place phosphorus at the head of the list of the substances employed for purpose of poison. From experiments he had performed, M. Personne hoped to find in the essence of turpentine an antidote to phosphorus on the following grounds:—

1. It had been long known that the essence of turpentine, like other hydrocarbons, takes from phosphorus its property of luminosity in darkness, of emitting vapor, and it may be said of burning at a low temperature.

2. Dr. Letheby has recently made known that in an English lucifer match factory at Stafford the workmen have been preserved from necrosis of the jawbone, produced by the vapor of phosphorus, by carrying near to their breasts a small open vessel containing essence of turpentine, the fumes from which came in contact with the mouth and nasal orifices.

3. Finally and more recently Dr. Audaut has published some observations on a case of attempted suicide by means of chemical matches. The suicide was rendered abortive by essence of turpentine taken by the unhappy subject in the hope of accelerating and rendering death more certain.

Personne's own experiments were fifteen in number, and were made upon dogs of medium size, and as nearly as possible of the same strength. These animals were treated in five series of three. Number 1 was subjected to the action of phosphorus only; to number 2 the essence of turpentine was administered an hour or two after the phosphorus had been given; and to number 3 the administration of the essence followed immediately upon the ingestion of the phosphorus. Thus five dogs took phosphorus only, five received the antidote an hour or two after the poison, and five immediately after. All the animals had fasted since the previous evening.

The administration of the phosphorus and of the essence was made by the aid of an œsophageal tube introduced into the stomach by the mouth. Once only it was given in the form of paste for chemical matches; for the others it was dissolved in oil of sweet almonds, and then made into an emulsion with the yelk of egg. These experiments were commenced on the 13th of January and lasted until the 27th of February. The results were that number 1 of every

series, namely, those which were subjected to the action of the phosphorus only, died.

Number 2. to which the antidote had been administered an hour or two after the poison had been taken, experienced the same symptoms as the first; some were very ill, but only one succumbed; the remaining four recovered perfectly, and were kept for fourteen or fifteen days after the experiment.

Of number 3, which had received the antidote immediately after the poison, only one died; the others suffered from a slight indisposition, which manifested itself simply by a disinclination for food, but without losing their natural vivacity. These were kept from ten days to a month without exhibiting any change in their health.

It will be seen, then, that all the animals died which did not take the antidote; and that two only died out of the ten remaining, although to five of these the antidote was not administered until one or two hours after the poison.

The absence of success in the two animals which died may be explained by the fact of the extreme cold which prevailed at the time they were submitted to experiment; the temperature was below freezing point.

The largest dose of phosphorus employed in this series was 0.30 grammes, without increasing the dose of the antidote: thus it may be easily understood that the depressing action of the phosphorus upon the animals, added to the intensity of the cold, would have produced fatal results. Of the mode in which essence of turpentine resists the poisonous action of phosphorus, M. Personne says that it does not certainly act like the ordinary antidotes which usually unite with the poison to form insoluble or inactive combinations. The explanation which appears to be the best, is that phosphorus kills by altering the hæmatosin of the blood, which it deprives of its oxygen rapidly, if its absorption into the blood is rapid, and *vice versâ*. In the first case death is sudden enough, as by a real asphyxia. In the second case it is slower, and fatty degeneration results. The essence of turpentine when absorbed seems to prevent the phosphorus from burning in the blood, in the same way that it prevents its combustion in the air at a low temperature; it takes from it the property of depriving the blood of the oxygen which is indispensable to life, and it can then be eliminated without producing disturbance in the economy.

In one case where the absorption was rapid the blood became black, and M. Personne was so fortunate as to detect the presence of phosphorus with Mitscherlich's apparatus. Rapid death from phosphorus poisoning is due, therefore, according to M. Personne, to a true asphyxia. To test the truth of the hypothesis further, he has conducted some other experiments with pyrogallic acid, which, like phosphorus, has the power of absorbing oxygen. Two dogs were treated with the acid, the one receiving two, the other four grammes. In both symptoms of asphyxia were developed, and the other symptoms tallied with what are observed after administration of phosphorus. The animal which received the dose of four grammes died in fifty hours, the other ten hours later. The post-mortem indications were the same as those which are found in cases where phosphorus has proved fatal.

ART. 77.—*Remarks on a Case of Sudden Death in Ovariotomy while the Patient was under the Influence of Chloroform.*

By the late Sir JAMES Y. SIMPSON, Bart., M.D., D.C.L.

(*British Medical Journal*, February 26.)

Sir James Simpson says that his recent case of death from chloroform is the first which has proved fatal in his practice. Death from asphyxia, or from syncope, may occur in some cases. Sir James Simpson says, death from asphyxia can generally be averted by at once arresting the inhalation of the drug whenever the breathing becomes noisy or stertorous. Death from syncope is far less under control, and has apparently been the cause of the majority of the fatal issues mentioned in the journals. Before the introduction of chloroform, patients sometimes died of syncope on the operating table. He gives many

where even slight operations, such as opening abscesses, have been followed by death before the introduction of chloroform. Hence, he argues, that probably the fatal terminations in some cases of chloroform are not *always* to be ascribed to the inhalation of the drug. At the various drug manufactories in Edinburgh, upwards of two million of doses of chloroform are manufactured yearly. Sir James Simpson asks whether there is any other potent drug which could be administered with so few fatal results.

ART. 78.—*On Death by Chloroform.*

By BENJAMIN W. RICHARDSON, M.D., F.R.S.

(*The Lancet*, February 5.)

Dr. Richardson believes that the proportion of deaths from chloroform will be about one in fifteen hundred to two thousand cases of its administration; and he puts aside as exceptional or accidental, or as being eventually raised to the same rate, the smaller mortality that has taken place in some institutions and in some hands. Admitting that there must be a difference between the patient who is killed by chloroform and the patient who is not killed, he declares that we do not at present know what the difference is. He recognizes only one bodily condition as a distinct source of increased risk; and that is, a heart with its right ventricle dilated, and attended by bronchial cough and dilatation of veins. In one such case he declined to administer chloroform; and the patient died during its administration by another. Age, sex, the nature of the disease, the severity of the operation, and the skill of the administrator, he sets aside as having little or no bearing upon the result; and at least as adding nothing to what he calls the necessary average of mortality. He proceeded to speak of the precautions that should be taken; and laid much stress upon the effects of temperature and barometric pressure in determining the quantity of chloroform vapor that would be diffused in the air. He advised that the temperature of an operating room should be raised to 65°; that the preliminary fast of the patient should not exceed three hours in duration; that the last meal should be fluid, or semi-fluid (milk and beef-tea, with an admixture of grated biscuit, was recommended); that a little alcohol should be given shortly before inhalation, purely for the sake of influence upon the mind; that the recumbent or semi-recumbent posture should be enforced, and that, whichever was selected, the patient should not be moved about during the inhalation; and lastly, that as a rule the administration should be rapid. He referred to the manner in which chloroform is resisted by men of great muscular power, while those of active brain succumb to its influence more readily; and finally, he demonstrated by two experiments the mode of death. In a pigeon fully narcotized, a galvanic current called the muscular system into prompt activity, showing that the anæsthetic left the muscles unaffected, and that its action was upon the nervous centres. In a rabbit that had ceased to breathe, the lungs were found contracted and pale, while the heart was beating rhythmically; showing that the respiration was the vital function that failed; and also that the expiratory effort continued after inspiration had ceased. In subsequent lectures the subject will be continued, the means of resuscitation pointed out, and the uses of other anæsthetic agents discussed. We gather, from some of Dr. Richardson's observations, that he believes a person apparently dead from chloroform—that is, a person who has ceased to breathe, and who would actually die if either neglected or improperly treated—may be restored to life in almost every case; and that thus his rather large proportion of "necessary mortality" may be converted into a mortality that will be only temporary or apparent.

ART. 79.—*Death from Bichloride of Methylene at Guy's Hospital.*

(*British Medical Journal*, May 7.)

The following are the particulars of this case:—

George Birch, aged forty, a healthy-looking man, was placed on the operating table, for the purpose of having an iridectomy performed in each eye. One drachm (measured) of methylene was administered. While being brought under its influence, the patient was very violent, struggling, trying to raise up his head, and kicking with his legs. His struggles were forcibly restrained, and he became very bluish in color; the struggling ceased, and the methylene was removed before the operation was commenced. The operation on the right eye was completed; then the left eye was operated upon. During the second operation, the patient's appearance was normal; there was no blueness; and when the incision was made, he flinched and showed distinct signs of pain. The eyes were bound up and the patient left on the couch while one of the assistants noted down the nature of the operation. About three minutes had elapsed, when it was noticed that the respiration was shallow and catching. On touching the radial pulse, it could not be felt. The color was normal; except at the angles of the mouth, which were blue. The patient was immediately turned on his left side. There were a few gasping inspirations, then all ceased, the patient remaining pale. For about ten minutes the galvanic current, and for about an hour artificial inspiration (Sylvester), were employed, without success.

Post-mortem Examination.—All parts were perfectly healthy, except the heart and lungs. The muscular structure of the heart was quite healthy; there was no undue proportion of fat; the walls were strong; the valves healthy; On the surface of the left ventricle were small spots of ecchymosis, of the size of pins' heads, about twenty in number; there were none on the right ventricle. the left ventricle was empty and contracted; the right contained some fluid blood; the lungs were congested, the blood was fluid and of dark color.

ART. 80.—*The Process for Detecting Blood in Medico-Legal Cases.*

By A. S. TAYLOR, M.D., F.R.S.

(*Guy's Hospital Reports*, vol. xv.; and *British Medical Journal*, March 19.)

This is a continuation of a former paper, which was occupied with the detection of blood by the guaiacum-test of Van Deen. In the present volume, A. Taylor does justice (somewhat tardily, we think,) to the great improvement in this process, introduced by Dr. John Day, of Geelong, Australia, who uses ozonized or ozonic ether, in combination with the tincture of guaiacum. The rest of the article is by Mr. Sorby, and gives very clear details of the spectroscopic examination of blood stains. He states that 1-1000th of a grain of blood gives a characteristic spectrum; and that in urine a single drop of blood in a pint can be detected by it! In the case of suspected blood-stains, a few fibres of the fabric are to be soaked in water in a watch-glass, and the solution placed in a cell of barometer-tubing of one-eighth or one-tenth of an inch diameter, and half or three-quarters of an inch long. In recent stains, two absorption-bands in the green are readily seen in the spectrum. The author gives further details of the effects of reagents, for which we must refer to the paper itself. The conclusion is, that the detection of *blood* is easy, but to say from what kind of animal it has come is at present impossible.

ART. 81.—*On Poisoning by Hydrocyanic Acid and the Cyanides.*[1]

By M. BONJEAN.

(*Archives Générales de Médecine*, Avril, 1870.)

The following conclusions were derived from experiments made by M. Bonjean upon animals:—

Cadaveric rigidity always commenced about two hours after death, but the temperature was always prolonged beyond this period, and lasted sometimes for as much as eight hours; thus the body remains warm for some time after the establishment of rigidity.

Putrefaction is evidently not retarded in this kind of poisoning.

Medicinal prussic acid exposed during fourteen months in a window, in a flask of white glass closed with a cork, lost a part of its toxic properties; but still, after this lapse of time, maintained some energy. Another specimen of the same acid preserved all its strength after having been kept for one year in a flask secluded both from the open air and light.

Prussic acid and cyanide of potassium disappear completely under the influence of putrefaction; it is impossible to find traces of these poisons even when they have been given to the animals in greater quantities than were necessary to cause death. This result is easily explained by the great tendency of these bodies to become converted into carbonates of ammonia and potash, particularly under the influence of partial fermentation.

It is difficult to make out, in a certain manner, such as justice has the right to demand, even when the analysis has been made shortly after death, the presence of prussic acid or of cyanide of potassium in animals who have taken but just the necessary quantity for causing death.

One cannot refuse to admit that prussic acid may and ought to be sometimes found among the numerous products to which partial fermentation gives rise.

Organic matter distilled with water at a heat of from 100 to 120 degrees centigrade, will sometimes furnish on analysis the characteristic reactions of prussic acid.

ART. 82.—*The Antidote for Haschisch.*

By Professor POLLI, of Milan.

(*Medical Press and Circular*, December 22.)

Experience has proved that infusions of coffee, of tea, and of cocoa, always increase the action of haschisch; so that if it is wished to accelerate or to augment its effect it should be taken or administered in an aqueous infusion of one or other of these vegetable substances.

Lemon-juice and vinegar, and consequently, citric, malic, acetic, and tartaric acids, in aqueous solution, more or less diluted, arrest the effects of haschisch in a person who has taken it, and thus are competent to serve as real antidotes.

ART. 83.—*On Strychnine as an Antidote to Chloral.*

By M. LIEBREICH.

(*Gazette Hebdomadaire*, No. 9, 1870.)

M. Liebreich has communicated to the Academy of Sciences of Paris, through M. Wurtz, a short notice on strychnine as an antidote to hydrate of chloral administered in poisonous doses. He was led to this discovery by observing a case of trismus which, after a duration of eight hours, had been immediately cured by chloral. This fact induced him to produce tetanus in

[1] Communicated to the Académie des Sciences.

animals by strychnine in order to observe the effect of chloral upon this artificial disease. It was then made out that chloral diminished the effect of the strychnine on the condition that it was given very promptly after the administration of the poisonous alkaloid.

A much more important result was then obtained in another series of experiments made by M. Liebreich, which were intended to demonstrate the effect of strychnine upon animals poisoned by fatal doses of chloral.

It results from close experiments that strychnine when administered after too powerful a dose of hydrate of chloral diminishes and removes its effects, and this without producing the noxious action peculiar to it. M. Liebreich therefore proposes to make use of injections of nitrate of strychnine as an antidote in accidents produced by a too energetic action of chloral or of chloroform.

SECT. IV.—THERAPEUTICS.

ART. 84.—*On Hydrate of Chloral.*[1]

By M. BOUCHUT.

(*Archives Générales de Médecine*, Décembre, 1870.)

"Hydrate of chloral is a powerful sedative of the motor and sensory nervous system.

"The hydrate of chloral ought not to be given to the adult in a larger dose than five grammes, and with infants one should commence with a dose of one or two grammes. It may be administered by the mouth, or in enemata, which produce the same effects as when the agent is applied by the stomach. It is dangerous, in man, to administer the hydrate of chloral by subcutaneous injections. The arterial tension augments under the influence of the sleep from hydrate of chloral, at the same time that the frequency of the pulse is but slightly increased, and it diminishes after waking.

"Hydrate of chloral is absorbed more rapidly by the rectum than by the stomach.

"The urine passed during the sleep caused by hydrate of chloral is neutral, and does not, when tested with Fehling's solution, reduce salts of copper; but twenty-four hours after the sleep has passed off, it becomes more dense and causes a reduction of copper salts, a fact which might lead one to imagine a transient glycosuria, which, however, does not exist.

"The action of chloral is that of chloroform, but its effects are produced more slowly, and last for a longer time. With some patients it causes a muscular and moral agitation resembling alcoholic intoxication; but there is nothing disgusting or disagreeable about this. With almost all patients the sleep is rarely accompanied with hyperæsthesia, and, in the great majority of cases, its use is followed by a remarkable and decided anæsthesia. This anæsthesia is in relation to the dose employed. And after doses of from two to five grammes, according to the age, it is complete, and allows the surgeon to apply without causing pain, the actual cautery and Vienna paste, or even to extract teeth.

"In therapeutics, the hydrated chloral is a sedative of the violent pains of gout, and of the acute suffering in nephritic colic or dental caries; in short, it is the chief of anæsthetics that can be administered by the stomach.

"Finally, it is a very prompt and efficacious remedy to employ in cases of intense chorea, when one wishes to remove rapidly an agitation which, by itself, menaces the life of the patient."

[1] Communicated to the Académie des Sciences.

ART. 85.—*Remarks on the Use of Hydrate of Chloral in Affections of the Nervous System.*[1]

By T. S. CLOUSTON, M.D., Medical Superintendent of the Cumberland and Westmoreland Asylum.

(*British Medical Journal*, May 7.)

Dr. Clouston's experience of chloral, from having given it in forty cases of various forms of insanity, may be thus summed up :—

1. It has proved a most safe and certain sleep-producer. It seems certain that by it we can compel sleep in any case.

2. By means of this property, attacks of insanity may probably be warded off in some cases.

3. Its action in abating and soothing excitement is more uncertain than its sleep-producing power, and lasts a shorter time than that of any signally powerful drug; but it is most valuable in certain cases, especially in some recent and curable ones, where formerly we should have been afraid to give opium. It has no directly curative action, but it evidently could be so employed as to tide over short attacks of insanity, and to prevent certain cases from being sent to lunatic asylums.

4. Whether it does good or not, it never does harm. In this respect it is the very king of all narcotics.

5. Its effect on the temperature of the body is variable in different cases, and in the same case at different times; but generally it is to reduce temperature slightly, taking the average of a number of patients. It differs from opium in this respect, which raises the temperature; but the reduction caused by chloral is not nearly as great in maniacal excitement as that caused by alcohol in large doses.

6. It should be given to subdue brain-excitement in doses beginning at twenty or thirty grains, repeated from three to five hours. To produce sleep in great excitement, from forty to sixty grains are required, the latter dose not failing in one per cent. of the cases.

ART. 86.—*On the Use of Hydrate of Chloral per Anum.*

(*Berliner klinische Wochenschrift*, No. 1, 1870.)

Some unfavorable results from the subcutaneous application of large doses of hydrate of chloral, such as the formation of abscesses and necrosis of the skin, which had been observed in the Obstetric Clinique at Berlin, led to trials of the same agent in the form of a small enema with some mucilaginous medium. The results of this method of administration proved to be very satisfactory in a case of eclampsia with nephritis albuminosa in a domestic servant, twenty-six years of age, in the seventh month of her first pregnancy. On November 14 there was œdema of the whole body, especially of the labia and the lower extremities; for the previous twenty-four hours there had been no discharge of urine. On the evening of November 26 there was a sharp fit of eclampsia, which lasted for three minutes; fourteen minutes after there was a second fit, which was relieved by chloroform. The patient remained in a state of extreme narcosis until forty-five minutes past nine, when she was aroused and became quite sensible, but had no recollection of the preceding attacks. Five minutes before ten there were renewed spasmodic movements of the muscles of the neck, intense flushing of the face, and convulsive movements of the arms and legs. This third attack, and also a fourth one which commenced at ten minutes past ten, were relieved by the inhalation of chloroform. In the interval between the third and fourth fits the patient was unconscious. On November 17 an enema was administered composed of two grammes of hydrate of chloral to

[1] Read at a meeting of the Cumberland and Westmoreland Branch, April 21st.

thirty of decoction of marshmallow in a medium of strong mucilage. One hour afterwards another similar injection was also administered. Both were retained. At two in the morning the patient fell into a deep sleep, which lasted almost without interruption until noon. After awaking she remained quiet, without regaining perfect consciousness, for about two hours, and then went to sleep again with free respiration. This sleep lasted until the following morning, being only interrupted by much vomiting. At noon she awoke and enjoyed half a plate of soup, and then remained quiet in a state of almost perfect consciousness. There was no return of the fits, and by December 23, when some strong pains brought into the world a dead macerated fœtus, the patient had quite recovered. The lying-in progressed without disturbance. This quieting influence and sleep-producing action was observed in several other cases in which the hydrate of chloral in two-gramme doses mixed with strong and thick mucilage and decoction of marshmallow had been applied by the rectum, especially in sleepless lying-in women, and in patients who had been subjected to operation. Local disturbances were never observed even in cases where a second application had been made after a short interval.

Art. 87.—*On the Dangers from the Administration of Chloral.*[1]

By M. J. V. Laborde.

(*Gazette Hebdomadaire*, No. 47, 1869.)

"1. Chloral when injected, even in a small dose (0 gr. 75 to 1 gr. 50) under the skin of a small animal, causes at first a sharp irritation, then a pretty rapid inflammation and a more or less extensive purulent infiltration, and finally gangrenous sloughs.

"2. When introduced in the same doses into the stomach of some animal (a dog or rabbit), chloral gives rise to manifestations which bear witness to very painful phenomena evidently seated in the alimentary canal; post-mortem examination proves, in fact, the existence of injection and of very acute phlogosis in the mucous membrane of the stomach and intestines. The character and the intensity of these symptoms are in proportion to the doses of chloral employed.

"3. When administered to man in health, in progressive doses of 1.50 and 2 grammes daily, chloral determines, frequently on the second and third days, an exceedingly painful sensation in the epigastrium, acute colic and nausea with profuse perspiration. This investigation was made upon myself, and I thought it advisable not to extend the trial further."

Art. 88.—*Experiments with Chloral.*

By Hasket Derby, M.D.

(*Boston Medical and Surgical Journal*, December 2, 1869.)

Dr. Hasket Derby has made some experiments at the Eye and Ear Infirmary with chloral hydrates, manufactured in Boston. The doses given varied from thirty to seventy-five grains (two to five grammes). Thirty grains produced no sensible effect.

In two cases where forty-five grains had been given, the pulse fell in half an hour from 80 to 70 in one case, from 96 to 84 in the other, drowsiness in either case coming on in a quarter of an hour, followed by natural sleep, which began forty-five minutes after taking the drug. Sleep continued in the first case for two and a half hours without waking, and an hour and a half at intervals afterwards. In the other case, with the same amount, sleep only lasted one and a quarter hours.

In two more cases sixty grains were given, the pulse falling in one from 120 to 90, in the other from 90 to 60 in about half an hour, with increasing drowsi-

[1] Communicated to the Académie des Sciences.

ness. In the first case the patient did not go to sleep for two hours, and then only slept one and one-fourth hours. Whereas, the other fell asleep in an hour, sleeping heavily two hours, and at intervals for from two to three hours more.

In another case seventy-five grains were given, the pulse falling from 125 to 100 in half an hour, sleep then coming on and continuing for four hours. It was, however, somewhat interrupted, and the patient was roused and made to answer questions without much difficulty.

In no instance did sleep come on in less than half an hour after taking the drug. Two or three of the patients complained on waking, of headache, lasting from one to three or four hours; but otherwise they seemed to experience no ill effects. Appetites good.

The results obtained with this American preparation will be seen not to harmonize with those of Liebreich, who claims a much greater hypnotic power, having with from one and a half to three and a half grammes (twenty-five to thirty grains) produced sleep which lasted from five to fifteen hours. He also considers chloral an anæsthetic of some power, though inferior to chloroform and ether. Demarquay, on the other hand, in a recent report to the French Academy of Sciences, states, as the result of a series of experiments on animals and men, that he considers chloral as no anæsthetic at all, as the skin is sensitive, no matter how great the intensity of the sleep. He finds it, however, the most rapid of hypnotics.

Dr. Derby subsequently gave chloral with more positive results. One patient, who had been suffering great pain from an ulcer of the cornea, was given gr. lx early in the evening. The pain was relieved in the course of half an hour, but the patient became somewhat delirious, and, being missed from the ward, was found wandering about in the upper stories of the building. On being brought back to his bed he at once went to sleep, passed the night quietly, and continued in a drowsy state all the next day. *He exhibited marked cutaneous anæsthesia*, as did also a female patient who took the same dose. Forty-five grains were given in a case of iritis, attended with severe pain, at 1 A. M. The patient, a woman of sixty, went at once to sleep, and awoke the next morning free from pain, but complaining of headache.

Art. 89.—*On the Chloral Treatment of Eclampsia.*

By the Baron Paul von Seydewitz, M.D.

(*The Lancet*, April 2.)

At a meeting of the Obstetrical Society of London, held March 2d, the Baron Paul von Seydewitz, M. D., read a paper on the Chloral Treatment of Eclampsia. After a brief account of the therapeutical uses of chloral, and of the opinions entertained by various writers as to its properties, the author detailed two cases of eclampsia in which it had been used. The first was that of a woman, thirty-five years of age, who was admitted into the Bürger Hospital, at Bâle, in November, 1869, suffering from endocarditis subsequent to delivery. Some time afterwards violent epileptic fits came on, and recurred with great frequency. A variety of treatment was adopted without success. Eventually chloral was administered, with the effect of at once arresting the fits, which did not recur, and the patient was discharged cured. The second was a boy, twelve years and a half old, a patient in the same hospital, the details of whose case had been furnished by Dr. R. Massini, of Bâle. The boy was the subject of Bright's disease, complicated with mitral insufficiency and uræmia. Violent eclampsia came on, as many as twelve convulsive attacks occurring between 11 P. M. and 9 A. M. Chloroform inhalations were used without avail. In the intervals between the attacks he was perfectly unconscious, and unable to swallow. Chloral was injected hypodermically, with the effect of greatly diminishing the strength and frequency of the fits. After two more injections they entirely ceased.

Mr. Spencer Wells hoped that, when chloral was given, its effects upon the temperature would be noted. He had seen the temperature fall from 104° to

90°, after four doses of twenty grains each, at intervals of two hours. In a case of furious maniacal excitement, which he had seen last week with Dr. Monro, one thirty-grain dose was followed by almost immediate calm, and afterwards by sleep.

Dr. Playfair related the particulars of a case of threatened puerperal mania, in which the chloral had proved of great service. The patient had become maniacal after a previous labor. A week after her present confinement the same symptoms which had preceded her former attack showed themselves—restlessness and inability to sleep. A thirty-grain dose of chloral at bed-time produced a long, quiet sleep, and the same dose was repeated every night for a week. He had no doubt that the attack had by this means been averted.

Dr. Rogers had used chloral principally as an anodyne and hypnotic. He had successfully prescribed it last evening for a child attacked by painful spasmodic twitchings of the left arm and leg, due, he believed, to irritation of the brain from disease of the right ear. It certainly often caused nausea, and in one case under his treatment the first dose is almost invariably rejected; but, after waiting a few minutes, a repetition is retained with beneficial results.

ART. 90.—*Chloral Hydrate.*

(*The Lancet*, March 19.)

This interesting drug has now been sufficiently tested by a large number of eminent practitioners to enable us to form a tolerably clear idea both of its merits and its defects; and as we perceive that (after the usual fashion in matters medical) there is going to be an epidemic rage for the new remedy, it may be well to call the attention of the public to the principal features of its action which can be said to be fairly made out.

In the first place, the term "anæsthetic" should no longer be applied to chloral, for it has entirely failed to make good its claim to this reputation; even the largest doses do but produce a heavy and prolonged sleep, which is, however, essentially different from true anæsthesia. On the other hand, as a producer of sleep, chloral is, in many respects, unrivalled; for though, like every other remedy, it fails in a considerable number of cases, it does succeed in a very large number; in fact, it is inferior in certainty, as a hypnotic, to opium alone. Moreover, it is very greatly superior to opium, and almost every other drug, in the character of its sleep-producing action; there are no attendant symptoms of cerebral oppression; the sleep, though often prolonged, is light and refreshing, and no unpleasant after-symptoms are experienced. It is important to observe, however, that this description only applies to the use of moderate quantities, and that not only unpleasant but highly dangerous symptoms have been produced by doses which we regret to see are very commonly used. Very careful inquiry leads us to assert that it is both unnecessary and dangerous to give larger doses than twenty to thirty grains, repeated once or twice if necessary, for hypnotic purposes. Doubtless it might happen that 100 consecutive patients might take much larger doses with impunity, but the 101st might present the alarming symptoms described by Dr. Reynolds, in a recent number of the *Practitioner*, as produced by a dose of fifty grains, and these symptoms might easily take a fatal turn.

As a remedy for pain, chloral holds a very varying place in the estimation of medical men, some rating it highly, and others thinking it almost worthless. Perhaps the safest estimate of its power over pain is that it only exerts an indirect influence, by inducing a disposition to sleep, in which the pain is forgotten. Certainly it has entirely failed, in the hands of the present writer, to relieve severe pain of a pure neuralgic type. On the other hand, there is a good deal of evidence that it relieves suffering where the parts are very *tense*, and where mere arterial *throbbing* counts for much in the production of the pain; thus it has been very favorably spoken of for its effects in gout. And this fact, if it be correct, corresponds with certain observations which have been made as to its action on the circulation. Both from sphygmographic experiments on healthy persons and on patients, and also from the details of

the nearly fatal case reported by Dr. Reynolds, there is reason to think that chloral exerts a contracting influence upon the arterioles, powerful in proportion to the dose; and it may well be that arterial throbbing is checked by this kind of influence.

On the whole, however, there can be little doubt that the great function of chloral is that of a hypnotic and calmer of general nervous irritability. In delirium tremens it is excellent: and it is probable that with two such weapons for choice as bromide of potassium and chloral we shall be able almost entirely to dispense with the use of opium, which is so uncertain and dangerous a remedy in that disease. In the state of sleeplessness which threatens the access of puerperal mania, chloral is probably an unequalled remedy. In melancholia its action as a hypnotic appears to be powerfully and remarkably sure. In mania, also, it acts well enough as a hypnotic, though there seems some division of opinion as to whether it does permanent good. We may also state that in the irritable condition of aged persons who find it difficult to sleep for any length of time continuously, the use of a single dose of thirty grains of chloral appears often to answer excellently well The minor uses of the drug in relieving more trivial conditions of nervous irritation, and in alleviating painful spasmodic symptoms of various kinds, are probably considerable.

Art. 91.—*Therapeutic Note on Chloral.*

By the late Sir James Y. Simpson, Bart., M.D., D.C.L.

(*Medical Times and Gazette*, January 1.)

In sufficient doses Sir James Simpson has found chloral, as a general law, as sure a producer of sleep and soother of pain as opium or any of its preparations. It is usually swifter in the induction of its narcotism, more tranquil in its action, and more prolonged in its effects than opiates are when taken as hypnotics; but above all it seems in a great measure free from some of the minor drawbacks and disagreeable accompaniments produced by a full and large dose of opium. In this respect it appears to Sir James to fulfil successfully the indications which he predicted some time ago, of being a narcotic as powerful, and indeed more powerful, than opium, "and yet without either its direct constipating effects, or its indirect tendency to excite subsequent nausea, vomiting, &c." The sleep induced by a full dose of it steals on without any premonitory symptoms. It is usually deeper, and yet more quiet and calm, than that produced by opium; and it does not leave subsequently the thirst, dry throat and tongue, disturbance of stomach and appetite, and languor of mind as well as body, which most persons unaccustomed to the use of opium commonly feel after a deep and narcotic dose of that drug.

Ever and anon cases are well known to occur in practice in which patients declare their inability to take opium in any form without suffering severely from nausea, faintness, restlessness, and other evil effects. In several such cases the author has now used chloral as a hypnotic with perfect success.

Sometimes chloral produces its hypnotic effects when opium, from its long-continued use, has ceased to do so.

Sir James was not aware of any special contraindications to the employment of chloral when used for somniferous purposes. Even in head and chest affections, where he should have been chary of having recourse to opium as a hypnotic, he has employed chloral with perfect success. The contraindications to opium offered by a tendency to constipation, etc., do not exist against chloral.

Like all other remedies in the Pharmacopœia, it will, no doubt, occasionally fail to produce its desired effect; but as seldom so, perhaps, as most of them. In a few instances the sleep induced by it has been dreamy and hysterical, particularly when the patient was not kept in a state of perfect quietude; but these are rare exceptions to the general rule.

Sir James has seen enough to convince him that it will prove a very valuable anodyne in some cases of neuralgia, hysteralgia, dysmenorrhœa, pleurodynia, &c., and in the pains attendant upon cancer and acute local inflammations. In some cases of irritable bladder and chronic cystitis he has found it give the

patient much longer and more perfect rest than large doses of opium. In several instances it has seemed to him, when given in small and repeated doses, to soothe down both acute and chronic cough with remarkable effect, and to relieve asthma. In a young lady whom the author saw in consultation with Dr. Taylor, suffering under a severe attack of congestive bronchitis with some hæmoptysis, orthopnœa, a small dose (twenty grains) of chloral was given at night. "She speedily fell asleep," wrote Dr. Taylor the next day, "and slept soundly until 4 A. M., when she sat forward in bed and coughed, but appeared to be only half awake. When I called in the morning at 10.30 she was still enjoying a most placid slumber. As I contrast," Dr. Taylor adds, "the distressed and audible breathing of last night with the tranquil sleep and improved state of the patient to-day, I cannot help concluding that chloral has a directly sedative effect on the whole respiratory surfaces."

Occasionally Sir James has exhibited chloral in continuous small doses for one, two, or more weeks in succession, and apparently with most marked benefit, particularly in cases of chorea, threatened or incipient insanity, &c. A patient from Illinois, who, for several years, has always regularly suffered excruciating spasmodic pain in the left iliac region, attended with some discharge, for eight days before menstruation began (she has disease of the fundus uteri and left Fallopian tube), has, during the last two periods, kept at bay this old and formidable suffering by taking chloral night and morning during the threatenings of it. She strongly assures the author that formerly she used very large doses of opium and other anodynes without any such favorable effect. Sir James has found the parturient uterus to go on contracting regularly and strongly when the patient was so deeply asleep under chloral as to be only very imperfectly wakened up with the expulsive efforts of labor.

It has been employed in continued fevers to induce sleep and quietude and reduce the pulse. Dr. Liebreich speaks of its utility in rheumatism, convulsive coughs, tetanus, acute mania, and delirium tremens, and as a sedative after surgical operations.

The dose of chloral to an adult for an hypnotic which Sir James has usually employed has varied from 50 to 60 grains; but 25 to 30 grains suffice in some patients. In a case of long-standing sleeplessness, and which had resisted great doses of opium, Indian hemp, &c., 120 grains failed to produce any effect. When used for anodyne and other medicinal purposes, a continuation of smaller doses—as 10 or 20 grains several times a day—is sufficient.

In administering chloral Sir James has given it only by the mouth and by enema; almost always as a draught. It is somewhat acrid and pungent to most palates, and hence requires to be diluted well with water, and to have added to it a large quantity of syrup.

When it first came into use in this country the charge for a dose containing 1 drachm or 60 grains of chloral was as high as 3*s.* 6*d.*, an almost prohibitory price. A draught containing the same quantity is now sold by druggists at Edinburgh for sixpence; and doubtless it will become much cheaper when it becomes more employed.

Art. 92.—*On Chloral and its Therapeutical Uses.*

(*Bulletin Général de Thérapeutique*, Nov. 30; and *British and Foreign Medico-Chir. Review*, April.)

The *Bulletin Général de Thérapeutique* expresses its opinion of the value of chloral as a medicine, and summarises the opinions already given as to its efficacy. The substance in question was discovered in 1832 by Liebig, was afterwards studied by Dumas, and has been lately more particularly examined by Liebreich in its physiological relations. Liebreich sets out with the principle that chloral is to be considered as *trichloric aldehyde*, which may be dissolved in an alkaline medium, and is then decomposed to form chloroform. The anonymous writer in the *Bulletin* makes use of the *hydrate of chloral* as the most convenient preparation, and he has found, in his experiments on the lower animals, that its effects are quite analogous to those of chloroform. In the human subject, he tried it first in the form of subcutaneous injection, and

both he and Liebreich found that the effects were constant, and were accompanied by no inconvenience. Various other practitioners have made experiments with this substance, but the results are somewhat contradictory; and M. Bouchut has proved that the different opinions held by the experimenters are due to the fact that impure chloral has sometimes been used. With hydrate of chloral the results are rapid, evident, and well marked, and these are, the most tranquil somnolence and insensibility almost absolute. Chloral ought never to be employed in the liquid form, but as a solid hydrate which may be afterwards dissolved in some suitable vehicle. The test of its purity is that it slightly colors a solution of potash with a clear yellow, and disengages a well marked smell of chloroform; if it strikes a brown color it is impure, especially if the chloroform vapors are mixed with those of chloro-acetic acid. The dose of chloral, given internally, is 2 to 3 or 4 grammes (a gramme is about 15 grains) for a child, and 4, 5, or 6 grammes for an adult, but this dose must not be exceeded. When a patient has been awoke from its effects, the chloral may be repeated so as to induce sleep again, in order that the state of somnolence may be prolonged, if necessary, in painful complaints, as neuralgia, cancer, and burns. A patient may thus take several times 3 to 5 grammes in twenty-four hours, producing each time a period of three to four hours' sleep, but never more than 3 to 5 grammes should be given at a time. The writer in the *Bulletin* thinks that chloral will occupy a distinguished place in medical practice, as a hypnotic in painful diseases, and as an anæsthetic in a number of small but painful operations in which chloroform is unnecessary. Such diseases as nephritic colic and chorea are adapted for the use of chloral, and the extraction of teeth is rendered painless by its use. It is also useful in tetanus, in extensive burns, and in the paroxysms of gout, and it might be available as an anæsthetic in pregnancy. The conclusions drawn as to the therapeutical applications of chloral are the following. Hydrate of chloral is a powerful sedative of the nervous system, both motor and sensitive, but it must be employed pure. The dose should never exceed 5 or 6 grammes at once in an adult, and the preparations should be used fresh, as they are liable to be altered by keeping. The best mode of administration is by the mouth or by injection, but the use of chloral is contra-indicated in cases of organic disease of the brain and the heart. The effects of chloral are due to the production of chloroform in the system by the chemical action of the alkalies of the blood. It is dangerous, in man, to administer chloral in subcutaneous injections. The hydrate of chloral seldom acts as an emetic, and never purges. The temperature is a little lowered by non-poisonous doses of hydrate of chloral, so that it is an algide medicine, and the perspiration is diminished. The hydrate of chloral may be given in definite doses which are calculated to produce anæsthesia, which is not the case with the vapors of chloroform. The action of chloral is exactly that of chloroform, although it takes a longer time in producing its effects, but they are more lasting. In some patients the effects resemble those of alcoholic intoxication, but without the disagreeable accompaniments of the latter condition. In almost all persons there is sleep, and the anæsthesia is proportional to the dose employed. Chloral, unlike opium, does not cause vomiting, and does not constipate, but it promotes the appetite, and when the patient is awoke, there is neither heaviness nor somnolence. It acts as a sedative in nervous pain, as in the instances above alluded to, and from its action as a sedative in muscular action it is the most prompt and efficacious remedy in intense chorea.

ART. 93.—*The Mode of Preparing Chloral and its Hydrate.*

(*The Lancet*, May 21.)

We extract the following account from the "Traité de Chimie" of M. Dumas, t. v. p. 599: "This compound, the name of which is derived from the first syllables of the words Chlorine and Alcohol, appears in the form of a clear, transparent liquid, oily to the touch, and staining paper like an oily body, though the stains disappear in a short time. Its density is 1.502. It boils at 94° C.,

and distils without alteration. The density of its vapor is 5.0. Its odor is penetrating, provoking a flow of tears; its flavor slightly oily. In the anhydrous state it is very caustic, especially when the skin is exposed to the boiling vapor. It readily dissolves in water, which takes up a large quantity without leaving any residue. When a few drops are allowed to fall into water, they settle at once to the bottom of the vessel in the form of an oleaginous liquid; but on slight elevation of the temperature, they immediately dissolve. The solution of chloral in water has no perceptible taste, but its characteristic smell is perceived if it be warmed. The liquid does not possess an acid reaction. No precipitate of chloride of silver is produced on the addition of the nitrate. If instead of warming it with water, it be merely placed in contact with a few drops, it combines with it at once on agitation, with the evolution of heat. A few moments afterwards the compound assumes the form of a white, crystalline mass. If a few drops of chloral be placed in a flask containing moist air, the walls of the vessel become covered with delicate, stellate crystals, decussating in all directions, and composed of hydrate of chloral. When the chloral is not perfectly pure, containing a little water, it becomes cloudy after some days, and deposits from its watery solution a white body which may be called insoluble chloral. Chloral dissolves iodine, bromine, sulphur, and phosphorus, especially when heated; iodine communicating to it a beautiful purple tint. The anhydrous metallic oxides have no action upon it. When the vapor is made to pass over warm and anhydrous lime, or baryta, it renders them incandescent; and, transmitted over iron or copper, it converts them into metallic chlorides, whilst they become coated with a layer of brilliant porous carbon. The *hydrated* alkaline oxides readily decompose chloral, leading to the formation of chloroform, formiate of the base, and a little chlorine proceeding from the decomposition of the chloroform. Nitric acid, even when heated, has no action on chloral. The best mode of preparing it in a pure state is to subject absolute alcohol to the action of dry chlorine. Great precautions are requisite, since, in order to act upon about half a pint of alcohol, 1200 litres of chlorine are required, and 1500 litres of disengaged hydrochloric acid have to be disposed of. The chlorine, pure and dry, is transmitted through the alcohol contained in a large flask, from which an escape pipe leads to a large chimney. At first all the chlorine is converted into hydrochloric acid; but as the action becomes less energetic, the alcohol assumes a yellow color, which, however, disappears on the introduction of a few fragments of charcoal. The temperature of the alcohol must then be steadily and continuously raised, whilst the current of chlorine is rapidly passed through the fluid, till almost its boiling point is reached. In twelve hours about six ounces of alcohol can be converted into chloral; but when larger quantities are required, the operations must be continued for two or three days. The liquor in the flask is mixed with two or three times its volume of concentrated sulphuric acid, and submitted to careful distillation, in order to free it from hydrochloric acid, sulphuric ether, and alcohol. As soon as the temperature rises, the chloral accumulates at the surface of the mixture, and rapidly volatilizes. The distilled chloral is then placed in a retort with a thermometer, and boiled till its boiling point, at first lower, rises to 94° or 95° C. The remaining liquor should be redistilled with sulphuric acid, and again boiled. Lastly, it is to be distilled in a bath of common salt, after the addition of a small quantity of lime. To obtain the hydrate, it is only requisite to mingle it with its own volume of water, and evaporate."

ART. 94.—*On the Alkaloids of Veratrum Viride and their Therapeutical Effects.*

By HORATIO WOOD, Jun., M.D., of Philadelphia.

(*American Journal of the Medical Sciences*, January, 1870.)

Mr. Bullock, of Philadelphia, has described two alkaloids in the *Veratrum viride*, one soluble and the other insoluble in ether; and Dr. Wood has investigated the physiological action of these two alkaloids, as well as that of the

resin associated with them. His experiments were made upon some of the lower animals with the alkaloids in question, to which it is proposed, in the forthcoming edition of the *United States Dispensatory*, to give the names *viridia* and *veratroidia*. The general results at which Dr. Wood has arrived are that there exist considerable differences in the action of viridia and veratroidia, the former being only slightly, if at all, locally irritant, never producing vomiting or purging, exerting no direct influence on the brain, but acting as a depressant of the spinal cord and of the circulation, while the latter (veratroidia) is somewhat irritant when locally applied, and is an irritant emetic, and sometimes a cathartic. But, like viridia, it exerts no direct influence on the brain, and is a depressant of the spinal cord and of the circulation. Veratroidia appears to hold, physiologically as well as chemically, a middle position between viridia and veratria. The resin of the veratrum viride appears to have no very active properties. Dr. Wood thinks that viridia will prove to be a valuable remedy, possessing all the sedative influence of the veratrum viride without the nausea and vomiting which the plant itself often produces. Dr. Wood has taken viridia himself, in order to test its properties, and he thinks that this alkaloid might be given in the dose of one-sixth of a grain repeated every hour.

Art. 95.—*On the Effects of Arsenic in Phthisis.*

By Dr. Isnard, of Marseilles.

(*Bulletin Général de Thérapeutique*, Dec. 30, 1869; and *British and Foreign Medico-Chirurgical Review*, April.)

The effects of arsenic in the treatment of phthisis have already been investigated by Dr. Cersoy, of Langres, and Dr. Isnard has lately contributed some of his experience on this subject in memoirs published in recent years. Dr. Isnard now gives a summary of his views in reference to the local and general action of the drug. He states, in the first place, that when arsenic is employed in phthisis, the febrile disturbance, when it exists, is weakened and suspended, while the nocturnal sweats, the general excitement, and the sleeplessness are also diminished. As the fever abates, the digestive function is improved, and the diarrhœa or constipation or vomiting disappears; in short, a general improvement becomes perceptible. As the constitution improves, the local lesions and the lung itself undergo a beneficial change, and the cavities in the lung are cicatrized. This result is proved, according to Dr. Isnard, by the relief of the cough, the diminution of the secretion of the bronchial tubes and of the pyogenic membrane of the cavities, by the substitution of mucous for purulent sputa, and of dry for humid rhonchi. Another and no less important result of the arsenical treatment is the retardation of the evolution of tubercles which are not yet softened, and the arrest of development of those which were about to form. Many tubercles are thus rendered abortive, or they remain in a latent condition, or they do not pass beyond their period of crudity. Dr. Isnard then examines more particularly the immediate action of arsenical preparations upon the respiratory function, the respiratory organs, and the tubercles. Arsenic promotes respiration, as is proved by its physiological and therapeutical effects, and Dr. Isnard states that arsenic-eaters, and those who take arsenic for other diseases besides those of the lungs, are relieved of the dyspnœa caused by various pulmonary diseases. The drug also acts beneficially on the pulmonary tissues and the nerves and muscles of respiration; but Dr. Isnard's views on this point are somewhat hypothetical, as are also those which relate to the action of arsenic on the tubercle itself. He considers that the arsenic, by its regenerative action on our tissues and functions, is well adapted to remedy the organic disturbance which engenders phthisis, and that it impresses on the economy a vitality which is superior to, and incompatible with, the development of tubercle, and thus renders the soil unfit for its reproduction. The general conclusion drawn by Dr. Isnard as to the action of arsenic in phthisis is, that by its local and general action, at once curative and preventive, it influences at once the capillary system and the different tissues, affecting both the lungs and the whole economy.

It does not attack the tubercle directly and specifically, like a parasiticide, but directs its action to the elements and tissues which remain actually or relatively healthy.

ART. 96.—*On the Treatment of Asthma by Tobacco.*

By Dr. SÉE.

(*Bulletin Général de Thérapeutique*, Nov. 15, 1869.)

The effects of tobacco are primarily those of a poison, but they differ from those of other poisons in being modified by habit. In this respect tobacco agrees with opium, belladonna, haschish, and arsenic, although all of those are tolerated less than tobacco, while, on the other hand, some medicines accumulate in the system, such as digitalis and strychnia. Dr. Sée considers that tobacco, used in moderation, accelerates the respiration in the first instance, but in larger doses that it causes tetaniform convulsions of the respiratory muscles, and he therefore advises asthmatic patients to use tobacco cautiously, for when too much is employed the very symptoms are produced which the sufferer wishes to avoid. His opinion is that tobacco, like belladonna, acts upon the origin of the pneumogastric nerve without affecting the nerve itself: and that its first action, used in a moderate dose, is to accelerate the breathing, while its secondary action, and in an increased dose, is to retard it. Thus, he continues, tobacco and belladonna act upon the same central organ as asthma does, and he argues, moreover, that this action is inversely to that of asthma, so that the association of the two medicines in moderate doses at the commencement of the asthmatic paroxysm is legitimate and useful. In giving advice, therefore, as to the use of tobacco by asthmatic patients, he says that they should be recommended to consume only a certain dose, for if tolerance be exceeded, then the circulation and the respiration will be retarded, the vessels will be dilated, and all these unfavorable effects will promote the return of the paroxysms.

ART. 97.—*On Cincho-Quinine, a new preparation from Peruvian Bark.*

(*Boston Journal of Chemistry*, 1869.)

It is proposed to employ in medicine a preparation containing all the alkaloids of the cinchona barks, instead of the barks themselves, or any one of the alkaloids separately. Cincho-quinine contains quinia, cinchonia, quinidia, cinchonidia, and other alkaloidal principles which have not been directly isolated, and the precise nature of which is not well understood. In the paper referred to, cincho-quinine is said to be preferable to sulphate of quinine, inasmuch as it does not produce cerebral distress as the latter sometimes does, and it does not oppress the stomach or create nausea. It has also the great advantage of being nearly tasteless, the bitter being very slight, and it is less costly than the sulphate of quinine. It forms a perfectly clear solution in water acidulated with acetic or sulphuric acid, and a pleasant elixir may be made from this solution by adding syrup and aromatics. In intermittents, cincho-quinine may be given in the same doses as sulphate of quinine, but it is recommended that a dose of ipecacuan or other emetic should be given as an introduction to the treatment of fever and ague. This mode of treatment is said to be very successfully carried out in the wards of the United States Marine Hospital, Chelsea.

ART. 98.—*Therapeutical Use of Arsenic in Phthisis.*

Under the care of Dr. NONAT, at the Hôpital la Charité, Paris.

(*The Lancet*, March 26.)

On a recent visit to the Charité, Dr. Nonat kindly communicated to us his experience of the therapeutical effects of arsenic in phthisis. The very favorable results which Dr. Moutard-Martin, of Beaujon Hospital, had derived from arsenic in the treatment of tuberculosis, had led M. Nonat to try the substance in a

large number of cases. He has administered the remedy under the form of arsenious acid, and in doses of one milligramme, in pills to begin with. This dose was gradually increased every eight days by one milligramme, till he would reach the dose of four milligrammes a day. In these conditions the medicament has afforded him good results, in cases where tuberculosis had attained only the first or second stage, and presented no intestinal complication, for when vomiting and diarrhœa have set in, arsenic must be at once discarded. When phthisis is incipient, and when it is well circumscribed, M. Nonat has seen arsenic increase the appetite and strength of the patients. They gain flesh, look much better, and feel stronger and more cheerful. In such cases the medicament does not increase the pulmonary congestion, and, indeed, is attended by no inconvenience. The only counter-indication lies in the alimentary canal. In many subjects, however, placed in the above conditions, arsenic, if it did no harm, failed to produce any benefit.

M. Nonat's rule for the employment of arsenic is, therefore, to administer it only in cases of well-circumscribed phthisis. When tuberculization is generalized, or far advanced, arsenic, far from producing any good, increases the irritation of the bowels, and brings on gastro-intestinal disorder: the local action of the subsance becomes noxious.

Summing up the practical results of his experience of arsenic, M. Nonat says that good effects, in hospital, have been the exception in patients in whom the disease has attained an advanced stage; but in civil or town practice, where the physician is consulted at an earlier period, the results have been good in a large number of cases. In a word, M. Nonat believes that arsenic is a remedy which must not be neglected in the incipient stage of phthisis, or when the disease is well circumscribed; but he adds that its virtue has been too highly extolled.

ART. 99.—*On the Employment of Veratrin in Subcutaneous Injections.*

By Dr. PÉGAITAZ.

(*Deutsches Archiv für klinische Medicin*, Band vi., 1869. *Gazette Hebdomadaire*, No. 11, 1870.)

Veratrin has been the object of numerous researches; isolated by Meissner, and almost at the same time by Pelletier and Caventou, then studied chemically by Couerbe and aftewards by M. Wurtz, it has been experimented upon by physiologists and physicians, the bare enumeration of whose names would prove that over the whole of Europe attention has been directed to the physiological and therapeutical action of this agent.

The work of Dr. Kocher directed in 1866 attention to the effects of veratrin in the treatment of fibrinous pneumonia. M. Oulmont also published a memoir on veratrum viride in 1868. (*Gazette Hebdomadaire*, 1868, pp. 38 and 58.)

The experiments of M. Oulmont led him to the conclusion that veratrin was not the active principle of veratrum viride. The principal argument invoked by this observer consisted in the fact that veratrin was a modifying agent of muscular contractility, whilst veratrum viride and veratrum album produced no phenomena on the side of the muscular system.

The results obtained by Dr. Pégaitaz differ from the preceding results in many respects. This author has studied the physiological and therapeutical action of veratrum employed internally and administered by subcutaneous injection. On the first point he reproduces the general data laid down by Aran, Biermer, and Kocher, and endeavors to show that the mode of action of veratrum viride does not sensibly differ from that of veratrin.

The majority of the researches made on veratrin present a remarkable conformity. They all show the hyposthenic action of veratrin upon the pulse and temperature and its anti-febrile properties. The symptoms observed in the alimentary canal are the first and most constant phenomena of poisoning.

Dr. Pégaitaz had especially in view the comparison of the action of veratrin according to the mode of administration. With this end, he studied at first the effects of veratrin when injected subcutaneously on dogs and on a cat; the

symptoms were analogous in all the experiments and in relation to the quantity of veratrin injected.

The first symptom of all was salivation, which came on in from three to five minutes after the injections, then followed movements of the jaws, "le mâchotement," as Aran was the first to call it. He then observed in progression, nausea, vomiting and diarrhœa; then exaltation of reflex action, and diminution of sensibility; at the same time the temperature was lowered (in some cases by three degrees); frequency of the respirations and the cardiac pulsations was also much pronounced. Finally convulsions and tetanus were the last signs of poisoning, which, in the dead body, could not be recognized by any appearance of inflammation.

The therapeutical effects of veratrin injected subcutaneously were followed by Dr. Pégaitaz in several cases of pneumonia and in a case of pleurisy.

Immediately after the injection the patients complained of an acute pain at the seat of injection, which pain lasted from two to five hours. Sweating was not absent in any one case; it was independent of the temperature. Vomiting was a common symptom, it was occasionally repeated several times, and was accompanied by epigastric pain and also hiccough. The sensation of dryness and burning in the pharynx was frequent, also salivation. Diarrhœa was observed in ten instances, but was not very intense and ceased spontaneously. In one case, however, the diarrhœa was accompanied by sharp colic.

There was collapse in one case, somnolence generally, but no delirium.

The anti-febrile properties of veratrin were shown in all the injections.

In two cases the temperature and the pulse were restored to the normal standard. In one case this effect was produced with the temperature at the end of ten hours; with the pulse, about six hours after the injection: in the second case, at the end of nine hours with the temperature, at the end of three hours with the pulse. In both cases the temperature remained normal for three hours and was then raised again, but to a less extent than before the injection. In the other cases the effects were less precise, and there was sometimes observed, on the contrary, a slight elevation of the temperature and a slight increase in the frequency of the pulse.

Dr. Pégaitaz also studied with care the peculiarities presented by the circulation. Modifications of the cardiac activity were constant under the influence of veratrin. In most instances at the time when the pulsations diminished in frequency, the fulness became more feeble. With diminution of the tension coincided contraction of the arterial calibre and diminution of the height of the pulsation. These signs of the action of veratrin upon the circulation were the first to be observed, and supplied a measure of the ulterior employment of doses of veratrin; they did not indicate the commencement of absorption, but that a sufficient quantity of this agent for the production of the preceding phenomena had been absorbed. Not only was the fulness of the cardiac contraction modified, but the rhythm was also varied. When the tension was lowered to a certain degree, the pulse became irregular and intermittent, and when the apex of the heart was explored by palpation a lengthening was often observed during the systolic contraction of the organ.

Respiration was but slightly influenced by the injection of veratrin; it was not restored to its normal type.

Such were the common signs; it will be remarked that among the differences presented between the action of veratrin on patients suffering from pneumonia and its action upon animals, it is necessary to insist particularly on the one hand upon the slight importance of the intestinal disturbances and the absence of collapse, and, on the other hand, on the influence of veratrin with regard to the mechanism of the circulation. These points are interesting, and it will be seen that they differ from the facts pointed out by M. Oulmont.

It seems, according to the results obtained by Dr. Pégaitaz, that veratrin in its mode of action on febrile patients approaches nearer to poisons of the heart than to poisons which modify muscular contractility.

After having shown the effects of veratrin administered internally or by subcutaneous injections, Dr. Pégaitaz has compared together the results furnished by the two modes of administration, and taking account at the same time of the

local disturbances and the general symptoms, has arrived at the following conclusions: Veratrin employed in subcutaneous injections in cases of fever acts more rapidly and more calmly than when it is given by the mouth. The symptoms are the same in both instances. The pain which accompanies the injections generally contra-indicates the hypodermic method.

ART. 100.—*Danger of Injections of Perchloride of Iron in Sanguineous Tumors.*

(*New Orleans Journal of Medicine*, October, 1869; and *New York Medical Journal*, April, 1870.)

A child ten weeks old, having three sanguineous tumors respectively on the left cheek, left leg, and right lumbar region, was brought to Professor Sautesson, of Stockholm. While in the country, the child had been for two weeks in charge of a physician, who was prevented from vaccinating the tumor on the face by want of virus, and instead applied collodion, but this produced no change.

The tumors were beneath the skin and evidently still growing. That on the face, the one of greatest importance, was an inch in diameter, and occupied more than half the thickness of the cheek, being situated midway on a line drawn from the ala-nasi to the lobule of the ear. Vaccination not promising any hope of success, and such procedures as excision, ligation, and cauterization presenting serious objections, the choice was limited to acupuncture by galvanic needle, and injection of a coagulating liquid. The latter was preferred by the professor, and immediately, with the assistance of Professor Abelin and Dr. Schlerg, the injection of a liquid, composed of ferri perchloridi six parts and alcohol one part, was commenced. The injection was made with subcutaneous glass syringe containing eight or ten drops of the mixture. The capillary tube was first introduced and directed vertically across the tumor, towards its centre, and only one-half of its contents injected, it was then withdrawn, and reintroduced horizontally, the point being directed deeper in the tumor. Before the second injection was completed, the operator was forced to withdraw the syringe on account of the appearance of threatening symptoms in the child. Death took place in about two hours.

Autopsy, on the day following death, revealed the following symptoms: The tumor was much lessened in size; its tissues, from being spongy, had become firm and solid from coagulation of the blood.

The surrounding veins (facial and its ramifications) were empty. The external and internal jugulars contained no clots in the superior portion, but as they approached the chest the contained blood was generally clotted. The clots became more and more firm in the subclavian, the superior vena-cava, and in the right cavities of the heart. These were literally distended with coagulated blood. The left auricle contained a small clot, the left ventricle was empty. It is probable that, in introducing the tube the second time, one of the veins (perhaps a branch of the facial) was penetrated. The history of this case and its unfortunate termination suggest, as a precautionary measure against a similar occurrence, pressure between the tumor and the heart when performing the injection.

ART. 101.—*The Therapeutical Value of the Sulphites.*

By J. W. MILLER, M.D.

(*Edinburgh Medical Journal*, Sept. 1869.)

After recording a series of cases of typhus, eight hundred and eighty-four in number, and which were treated part with and part without the sulphites, showing no benefit whatever from their use, Dr. Miller adds:—

"Having seen the inutility of the sulphites in the treatment of typhus fever, I have not made any trial of them in the treatment of the other exanthemata. There remains, however, a class of diseases in which, I believe, they have been

proved to possess great value—I mean, cases of purulent infection, or septicæmia. In midwifery practice, for instance, such cases are common enough. We have cases of abortion, in which the ovum is imperfectly expelled, and in which portions of the placenta are left adherent to the uterus, which shortly become putrid. In such cases the most serious consequences frequently ensue from the absorption into the blood of the putrescent material. In cases of adherent placenta likewise, at the full term, the same peril is present. Under such circumstances we possess, I believe, in the sulphites a very effectual means of reducing the danger to a minimum. I have had several such opportunities in practice of testing the power of the sulphites, and with the most satisfactory results. One very marked case occurred to me within the last few weeks. After a very protracted and difficult case of labor, in which the child was hydrocephalic, the head requiring to be opened before delivery was effected, the placenta was found to be adherent. It required to be scraped from the uterus over its whole extent by the fingers, and doubtless numerous small fragments were unavoidably left here and there adherent, as was partly proved by the occurrence, a few days later, of considerable hemorrhage, which was arrested by means of ergot. The woman lost much blood before the extraction of the placenta, was much exhausted by the long labor, and the uterus contracted very imperfectly. The discharges soon became putrid, and the patient was just in the condition to favor the absorption of the putrescent fluids by the uterine vessels. I put her at once under treatment by half-drachm doses of the sulphite of magnesia every fourth hour. For a few days she was in a high fever, but nevertheless she made a rapid and complete recovery, and was able to walk out of doors within three weeks after her delivery. Several other similar cases have occurred to me, to give the details of which, however, would be of little use. They were either cases of delivery at the full time, in which, from retention in the uterus of coagula of blood, or of fragments of the placenta, the lochia became putrid; or cases of abortion, in which the placenta came away piecemeal, and in which, under the employment of the sulphite of magnesia, the constitutional symptoms were either slight or entirely absent. To be of any avail, I believe the remedy must be given in considerable doses, from half a drachm to a drachm every fourth or sixth hour, and, still more, that its use must be commenced early in the case, either before or immediately on the appearance of the constitutional symptoms. In one case of abortion in which the sulphite was not given until after the development of symptoms of blood-poisoning, it had not the slightest effect in mitigating the course of the disease, and the case ended fatally."

ART. 102.—*Contribution to the Therapeutics of Laryngeal Diphtheria.*

By Dr. ALBU, Director of Lazarus Hospital, Berlin.

(*Berliner klinische Wochenschrift*, Feb. 1, 1869; and *St. Louis Medical and Surgical Journal*, July 10, 1869.)

Laryngeal diphtheria being almost inaccessible to local treatment, inhalations and even tracheotomy being mostly unsuccessful, the latter in young children not even allowable, I have, in order to exert a dissolving influence on the diphtheritic membranes of the larynx, made injections into the latter of lukewarm lime-water. To this end I entered the canula of the injecting syringe from without, usually between the cartilaginous rings of the trachea, and at first threw only a few drops, but afterward, seeing that there was no danger in doing so, a whole syringeful, upward into the cavity of the trachea toward the larynx. This was never followed by suffocating paroxysms. Violent cough is induced and the children usually at once eject shreds of diphtheritic exudation. Thus far I have treated six cases in this manner, though only one successfully. The first five children so treated, all under five years of age, were already in the stage of suffocation, and lived in consequence of the injection, as I am convinced, several hours longer than could have been expected. A girl of ten affected with decided laryngeal diphtheria, in whom tracheotomy was

indicated, I have saved by the injection twice a day of a syringeful of lime-water, with the appropriate internal treatment. (*Aqua Chlori, Decoct. Cinchonæ*).

We add to the above the following note by the editor of the *Wochenschrift*, Dr. Waldenburg, which is appended to Dr. Albu's report:—

"In the treatment of diphtheria and croup, lime-water has hitherto proved in my hands also the best local remedy, and I employ it partly in the shape of gargles, partly for injections into the nose, and chiefly for inhalation in the atomized form by means of the steam apparatus. Children over three or four years old usually submit to these inhalations willingly. In cases in which this method is not applicable, I could not hitherto make up my mind to have recourse to the method recommended by Gottstein, of injections of aqua calcis *per orem* directly into the larynx, fearing suffocation. The method recommended above, by Albu, seems to show that the fear of suffocation in consequence of bringing liquids into the larynx is not quite well founded. But whether, having resolved upon this, the injection from without has any advantage over the injection *per orem* seems *a priori* doubtful; Albu's present communication at least cannot yet solve the doubt. When the children are old and docile enough for the use of inhalations of lime-water, this method is decidedly preferable to every other local treatment."

Art. 103.—*The Glycerine of Tannin.*

By Meredith Clymer, M.D.

(*Medical Record*, Dec. 25.)

An incorrect formula for the glycerine of tannin is given in the *Medical Record*, November 1st, p. 396. It is officinal in the British Pharmacopœia of 1867, and the directions for its preparation are: "Take of tannic acid, one ounce; of glycerine, four fluidounces. Rub them together in a mortar, then transfer the mixture to a porcelain dish, and apply a gentle heat, until ample solution is effected."

Dr. Sidney Ringer first published his remarks on the employment of this preparation in *The Practitioner*, July, 1868. He says: "It appears to be but little known, and consequently but little used, while, in my opinion, it proves of great service in many diseases;" and he mentions ozœna; the reddish, sanious, or purulent discharging excoriations in the inside of the nose after scarlet fever or measles, with the consequent eczema of the upper lip; the thick, lumpy, greenish-black, often offensive, discharges from the nose, generally chronic and intractable; the thin sanious or purulent discharges from the ears, in weak unhealthy children, particularly during convalescence from long illness; the early stages of eczema, when the skin is red, tumid, and weeping; the eczema which is limited to behind the ears of children; inflammations of the throat, after the acute symptoms have subsided, and particularly in those cases where there is general relaxation of the uvula and pharynx. In his *Handbook of Therapeutics*, just published, Dr. Ringer adds to the list of affections in which this combination does good.

Having used glycerine of tannin since the appearance of Dr. Ringer's paper, in most of the disorders just mentioned, I can bear witness to its efficiency. I have also found, that in chafing (intertrigo), both in adults and children, it gives prompter relief than any other means. It will remove almost immediately the annoying itching of pruritus ani. Stuffing of the nose in syphilitic children, so characteristic and troublesome, and hindering sucking, is for a while relieved by it. In vaginal leucorrhœa it is of much and immediate service. The canal should be loosely packed with wads of cotton-wool, thoroughly moistened with it. Excoriations of the os tincæ, particularly where there is a boggy os, with a greenish-yellow or sometimes sanious discharge, may be dressed with glycerine of tannin. After cleansing the parts, a cotton wad well saturated with the preparation is to be placed completely round the os and vaginal cervix, and another wad, moistened with glycerine, over this; the dressing to be changed every twenty-four hours. In chronic gonorrhœa and gleet, injections of glyce-

rine of tannin, diluted from one-half to two-thirds, will often prove quickly curative; it should remain in the urethra for five minutes.

Dr. Ringer writes: "In phthisis a frequent hacking cough is often dependent on the state of the throat, and can be allayed by this application. A good night's rest may be obtained by applying the paint just before going to sleep. A small quantity of morphia added to the glycerine of tannin still further increases its soothing, sedative power on the throat. The paroxysms of simple, uncomplicated whooping-cough may be most considerably lessened in frequency and violence by well sponging out the pharynx: it should be carried low down, and be brought well in contact with the epiglottis and the neighboring parts. . . . May be painted on the mucous membrane of the mouth in ulcerative stomatitis." (*A Handbook of Therapeutics*, p. 221.) In throat affections, I have not found it so efficient as other astringents, and by no means agreeable to the patient, though Dr. R. says, "It has the further advantage of not possessing a bad taste."

ART. 104.—*On the Production of Rapid Anæsthesia, and on a New Anæsthetic Compound for that purpose—Methylic Ether.*[1]

By BENJAMIN W. RICHARDSON, M.D., F.R.S.

(*Medical Times and Gazette*, April 9.)

Dr. Richardson commenced by explaining that within the past two or three years a practice had been followed of producing a quick insensibility which should be succeeded by equally quick recovery. Two agents had been employed for this purpose—(*a*) nitrous oxide gas, (*b*) bichloride of methylene. Accepting that the principle of producing quick insensibility had a practical intention and usefulness, Dr. Richardson said that he had objections to the methods which up to the present time were adopted for carrying the principle into practice. His objections to nitrous oxide gas were as firm as ever. He held still that the employment of an agent which excluded all atmospheric air during inhalation, which produced the most perfect asphyxia, which required for its administration costly and troublesome apparatus, and which, if administered beyond a given period, even for some seconds, must of necessity kill, was a bad agent for anæsthesia. The administration was, in fact, a rude and vulgar process, retrogressive in science. Respecting bichloride of methylene, though it was very hard to speak a word against any application of a remedy which he, the author, had himself introduced, he must be candid and say that he was not favorably impressed with the application of bichloride for *quick* general anæsthesia. That it was marvellously rapid in its action was true, that it answered the end had in view was true, and that it had now been used for the *rapid* inhalation an immense number of times without a casualty was also true. But these facts could not conceal the further and all-important fact that the bichloride of methylene belongs to a dangerous family of chemical substances, and cannot therefore be played with without risk. It had been extolled as safer than chloroform, and that was allowed, for as it contained an equivalent of chlorine less than chloroform it was naturally safer; but the safety was relative, not absolute. Under these impressions, the author was led recently to review experimentally the action of the whole of the more promising anæsthetic fluids and vapors, including chloride of methyl, chloroform, amylene, hydride of amyl, bichloride of methylene, ethylic ether, methylic ether, and some others which were given on a table placed before the Society. The result was that he had decided in favor of methylic ether for rapid anæsthesia. The anæsthetic properties of methylic ether were first discovered by Dr. Richardson in 1867, and the substance has been reported upon by him in two reports to the British Association for the Advancement of Science. On May 20, 1868, he inhaled it for the first time himself, Dr. Sedgwick and Mr. Peter Marshall administering it to him to complete insensibility. He was narcotized completely in one

---

[1] Abstract of a Paper read at a meeting of the Medical Society of London, March 14.

minute, was unconscious for seventy seconds, and recovered almost instantaneously without nausea, headache, or other unpleasant symptom. From that time the author had been in the habit of narcotizing occasionally with methylic ether, and recently he has used it systematically with marked success. The ether is made by digesting one part of pure methylic alcohol with two of strong sulphuric acid. The mixture is heated, and the methylic ether which passes over as a gas, is subjected to frequent washings in strong potassa solution. The ether remains as a gas even below zero; it has an ethereal odor; it is, chemically, an oxide of the radical methyl. Its vapor density is 23, taking hydrogen as unity, and it burns in air. The strongest objection to methylic ether is, that it is a gas; but happily the difficulty is to a large extent overcome, the gas being very soluble in various substances. Water takes up thirty-seven volumes of the gas, yielding an ethereal fluid of pleasant taste. Pure ethylic ether and alcohol take up over a hundred volumes. For practical purposes the author prefers absolute ethylic ether of sp. gr. 720, and boiling point of 92° Fahr. as the solvent. The ether is charged with the gas at a temperature of 32° Fahr., and the compound is at once bottled and firmly corked down. It should be kept for a time before being used, the process of keeping producing a comparatively stable compound. In using this compound, which he proposes to call methyl-ethylic ether, the anthor at present employs the simple mouthpiece invented by Mr. Rendle, and made merely of leather. He is adding to this a reserve bag, in order to conserve the ether. From one to two drachms may be put into the inhaler for quick narcotization. Dr. Richardson next described cases in which the methyl-ethylic ether has been administered to the human subject for extraction of teeth. In eleven cases the whole operation, from commencement of the inhalation to the complete recovery, was under three minutes, in several cases one minute was sufficient, while in two cases forty-five seconds sufficed. In no case was there spasm, syncope, or asphyxia during inhalation, nor any after-nausea, and in all cases there was a semi-consciousness, so that the patients did what they were bid to, remembered often what had been said, and yet were not conscious of pain. The author next described the action on the nervous centres of methyl-ethylic ether, comparing it with chloroform and other anæsthetics containing chlorine. He showed that the ether produced no such excitation of the nervous centres which supply the vascular system as chloroform does, and that consequently there was absence of muscular spasm, or contraction of bloodvessels, and of syncope from fatal contraction of the heart. When it was carried to the extent of arresting life in the inferior animals, it produced death by paralyzing the organic nervous centres. This extreme result was preceded by convulsive action similar to that which is seen in death from hemorrhage, the convulsion being due to the absence of arterialized blood in the muscles. So well, however, did the heart still retain its power, that in one case, in a lower warm-blooded animal—a guinea pig—the respiration returned *spontaneously* in pure air four minutes and forty-five seconds after it had ceased from inhalation of the ether. No fact could more definitely speak in favor of the safety of this agent. In conclusion, the author said that, as he had confined himself this time to rapid anæsthesia for short operations, his remarks must be taken as bearing on that subject only. He had introduced *methylic* ether as the readiest and best agent he at present knew of for the purpose described. It was better than nitrous oxide gas, because it allowed air to be given with it, and did not asphyxiate. It was better than bichloride of methylene, because it did not produce muscular spasm and syncope. At the same time, he did not consider it as perfect, nor should he consider general anæsthesia perfected until he or some other observer should discover an agent that will destroy sensibility without interfering at all with organic muscular life, volitional power, or consciousness. Methylic ether approached towards this perfection, though it did not touch it, and it encouraged perseverance in experimental research. For these reasons it was worthy the attention of the Society.

Art. 105.—*The Administration of Anæsthetics.*

By A. Ernest Sanson, M.D. Lond., M.R.C.P., Physician to the Royal Hospital for Diseases of the Chest, and to the North-Eastern Hospital for Children.

(*Medical Times and Gazette*, April 23.)

Practical rules.—Selection of cases having been made according to the principles before mentioned, Dr. Sanson suggests the following as rules for guidance:—

1. The administrator intrusted with the induction of anæsthesia should be provided with the following armamentarium: A case of three stoppered bottles, one containing the mixture of chloroform and absolute alcohol, another pure chloroform, a third absolute ether. A soft handkerchief or porous material through the fibres of which, when covering the face, respiration can readily take place. A hypodermic syringe with suitable morphia solution.

2. The patient should have abstained from food as far as possible on the day of inhalation. Nothing whatever should have been taken for four hours.

3. The patient being, if possible, in the recumbent position, the administrator should place the handkerchief over the nose and mouth, so as loosely to cover them with a single fold, and note that respiration is unimpeded. The mixture of chloroform and alcohol should then be dropped on the fold, a few minims at first, and, after two or three inspirations, twenty or thirty, which should be renewed as often as evaporation renders necessary. This should be continued until the desired stage of anæsthesia has been arrived at.

4. Ether may now be substituted if it is thought desirable, the fold of lint being moistened therewith.

5. In some rare cases it may be necessary (but only after tolerance has been induced by the administration of the dilution) to use some of the pure chloroform.

6. In case of any alarming symptom artificial respiration should be immediately practised.

Art. 106.—*Protoxide of Nitrogen as an Anæsthetic.*

By M. Jeannel.

(*The Lancet*, Dec. 18, 1869.)

M. Jeannel, the distinguished Professor of Pharmacy and Materia Medica of Bordeaux, has just brought forward a valuable memoir on the subject of protoxide of nitrogen. The following are the author's conclusions which more particularly relate to the anæsthetic properties of the gas:—

1. The purified gas, such as is employed at present, does not produce those exhilarating effects which have been described by authors of the commencement of this century.

2. Anæsthesia produced by protoxide of nitrogen is not so complete as that brought on by chloroform; but it differs essentially therefrom by the rapidity of invasion, the absence of excitement at the outset, and the facility with which one returns to the normal condition. It produces also a more decided kind of asphyxia.

3. It is of convenient application to operations of a short duration; and it is probable that the agent may be applied to the more important surgical operations, by preserving a suitable interval between the inhalations.

4. We are justified in saying that protoxide of nitrogen exposes less than chloroform to a fatal accident, but it certainly does exert such an action; it therefore should be exclusively kept in reserve for operations where peril is increased by pain. The use of the gas should be practised with all suitable guarantee and scientific precaution.

5. Protoxide of nitrogen is of less convenient employment than the fluid anæsthetics, on account of the apparatus which it necessitates.

ART. 107.—*On the Influence of Chloroform in Promoting Cutaneous Absorption.*

By AUGUSTUS WALLER, M. D.

(*The Practitioner*, December, 1869.)

From a number of experiments, Dr. Augustus Waller, of Geneva, deduces the following conclusions :—

1. Chloroformic solutions applied to the skin of man and animals are quickly absorbed, and produce local and general results according to the substances employed.
2. Alcoholic and aqueous solutions are either not at all or very slowly absorbed.
3. Chloroform easily traverses the dead skin by diffusion.
4. Alcohol does not traverse the skin, but produces an endosmotic current with water.
5. Skin exposed to chloroform in a state of liquid or vapor absorbs a considerable quantity of it.
6. On traversing the septal skin of the endosmometer, chloroform carries with it a certain amount of any alkaloid dissolved in it.
7. These observations sufficiently explain the rapidity of cutaneous absorption during life, without our having recourse to any problematic influence of sebaceous matter on the surface of the skin.

In the course of his experiments, Dr. Waller discovered that it was necessary for cutaneous absorption that the heart's action be not in any way diminished, for if it be, no absorption takes place, even after a prolonged immersion. This is owing not so much to the absence of local absorption in the skin, as to the deficiency in the vascular action; for if we remove the skin of a part that has been immersed, we can detect in its inner surface the presence of the dissolved substance, which, however, from the deficient means of transport in the vessels around, has remained localized and inert in the system.

ART. 108.—*Absorption of Iodide of Potassium by the Skin.*

By Dr. FERRAND.

(*Bull. Gén. de Thérap.;* and *Edinburgh Medical Journal*, Nov. 1869.)

Dr. Ferrand refers to a case of iodism occurring in private practice, as a consequence of the application to the skin of dry iodide of potassium. This fact, besides showing the possibility of the absorption of dry substances by the skin, affords a new means of administration of this important remedy. The case was that of a female who was attacked by inflammatory symptoms in the pelvic region, accompanied with purulent evacuations through the rectum. After a careful diagnosis, it was established that these symptoms were due to the presence of an immense pelvic abscess, occupying all the space behind the uterus and the broad ligaments. Dr. Ferrand wished to combine with the local symptomatic treatment the internal use of iodide of potassium in pretty strong doses; but in a few days very distinct symptoms of iodism obliged him to desist, although the fitness of the remedy appeared already manifested by a sensible improvement in the condition of the patient. Scarcely had the iodic phenomena ceased, when the re-administration of the iodide appeared to be justified; but it became necessary to suspend it again after three days. It was then that Dr. Ferrand thought of the application of dry iodide of potassium. With this view he made the patient put on a shirt which had been previously dipped in a solution of two drachms of iodide, and then dried. After three days this shirt was replaced by a second, prepared in the same manner; but towards the end of the fourth day the iodic symptoms recurred. These symptoms were coryza, lachrymation, a sense of weight and pain over the frontal sinuses, a sense of occlusion of the posterior nares, muscular pain extending over the whole region of the neck, constant nau-

sea accompanied with frequent vomiting, and smart fever. All these phenomena correspond, in fact, with those previously observed during the internal iodic treatment; and although they appeared after a longer lapse of time, when the remedy was applied externally, yet they remained more pertinaciously, showing that if the action of the medicine were a little less prompt, it acted more deeply and persistently than was the case when administered according to the usual method.

ART. 109.—*Methylic Ether as an Anæsthetic.*[1]

By B. W. RICHARDSON, M.D., F.R.S.

(*British Medical Journal*, June 4.)

At the Medical Society of London, Dr. Richardson made a second communication on the application of methylic ether as a general anæsthetic. Methylic ether is made by mixing one part of sulphuric acid with two of pure methylic alcohol, and applying heat. The ether passes over as a gas, having an ethereal odor, and a vapor density of 23, taking hydrogen as unity. To fix the gas, Dr. Richardson passes it slowly through pure ethylic ether, of specific gravity .730, and boiling point of 95° Fahr.: the gas is being absorbed for several hours, and the result is an ethylic ether saturated with methylic. This is the fluid employed for anæsthesia. Two drachms of the fluid are poured upon domette in a simple mouthpiece, which also covers the nostrils, and the vapor from the surface of the domette is directly inhaled. Dr. Richardson reported eleven cases of tooth extraction in which he had successfully anæsthetized with methylic ether, at the National Dental Hospital; and since Monday, March 14, Mr. Gregson has used it at the Dental Hospital of London, also with great success. Two peculiarities, at least, may be mentioned, as pertaining to the action of the new narcotic: (1) That it produces quick relaxation of the muscles; (2) That while the patients under its influence are unconscious of pain, they are capable of performing what appear to be conscious acts, which acts, on recovery, are entirely forgotten. The anæsthetic sleep is induced usually within a minute and a half, recovery being perfected as quickly; in no period of the anæsthetic sleep is there asphyxia, and the pulse undergoes little alteration. In short, from the experience as yet obtained, there is promise that, for short operations at all events, methylic ether will fill an important place in our list of remedies. The chemical composition of the ether is (CH_3) 2O.

ART. 110.—*Memoranda Respecting the Administration of Chloroform.*

(*British Medical Journal*, December 4, 1869.)

Preliminaries.—1. Unless very feeble, the patient should fast for three hours before the inhalation.

2. Twenty minutes before the inhalation, a dose of brandy should be given in water—a teaspoonful to a child, one or two tablespoonfuls to an adult.

3. The patient should, whenever convenient, be wholly undressed, and, invariably, everything tight about the chest or neck should be removed.

4. If possible, let the patient be in the recumbent posture, and on his back. Let the chest and neck be well exposed. Whatever form of apparatus be used (a piece of lint, a handkerchief, and Skinner's inhaler, are perhaps among the best), there is little or no risk with the first inhalations; and the patient may be instructed "to draw full breaths." So soon as any effect is manifest, you must be more cautious. Watch carefully the respiratory movements, and the color of the cheeks, lips, and eyes. When convenient, keep your finger on the wrist-pulse; but this is not essential. If the patient struggle much, proceed with increased caution.

---

[1] Abstract of a Paper read March 21.

Signs of Danger.—Lividity of Face.—Remove the chloroform, and let the patient have air. Open the mouth and draw out the tongue.

Stertorous Respiration.—Stop the chloroform, open the mouth, draw forward the tongue, and watch carefully.

Irregular Gasping Respiration.—Stop the chloroform, splash cold water on the face, and flip with the towel.

Feeble Pulse.—Proceed with great caution. If the feebleness amount to almost complete failure, stop the administration.

Death-like Pallor.—This, the most dangerous sign of all, must be met without a moment's loss of time. Flip with the wet towel on the cheeks, chest, abdomen, and limbs. Open the mouth, and if, as is usual, breathing has ceased, begin artificial respiration at once. With outspread palms, press the front of the chest forcibly down, whilst an assistant, at the same time, presses the abdomen. Make these movements not oftener than fifteen times in the minute. Air should be heard to enter the trachea. Whilst this is being done, let assistants continue most vigorously to flip the skin in all accessible positions—it cannot be done too much. If the collapse continue, let an ounce of brandy be injected into the rectum. Do not remit the artificial respiration until the patient is quite rallied. If the collapse persist, the efforts at rallying should be persevered with for an hour at least. If a large catheter be at hand, it may be well to introduce it into the trachea, and inflate the lungs by the mouth. Remember that irregular inspiratory efforts may occur long after death in all other respects has apparently taken place. Do not be deceived by them, but continue your efforts.

Remarks.—The plan of artificial respiration recommended is, we believe, all things considered, the most convenient. The catheter in the trachea is, when practicable, the most effectual plan. Its introduction is not difficult. If the artificial inspirations be made too rapidly, they defeat their own object; nor should they be too forcibly made. If it be needful to continue them more than a few minutes, the operator will find it convenient to kneel astride the patient's trunk.

The administrator ought always to have with him brandy, an enema-syringe, and a large flexible catheter. He ought always, when convenient, to require his patient to be undressed, since it may be very desirable to have the surface accessible.

By "flipping with the towel," we mean twitching the corner of a damp towel in such a manner as to cause the sharpest pain possible. It is by far the most effectual method of awakening a chloroform patient, and should, in case of danger, be practised instanter, and at several parts at once. Its effect is to excite locally the capillary circulation, and indirectly to stimulate the respiratory muscles, and even the heart itself.

Art. 111.—*On the Combined Action of Morphia and Chloroform.*

By Professor Claude Bernard.

(*Jour. Anat. and Phys.*, Nov. 1869.)

In his very interesting lectures before the College of France, Professor Claude Bernard points out some remarkable and valuable effects which may be obtained by combining the actions of morphia and chloroform (*Revue des Cours Scientifiques;* and *Bulletin Général de Thérapeutique*, Sept. 30, 1869, p. 241). Some years ago, Dr. Bernard had occasion to administer a dose of morphia to a dog recovering from the effects of chloroform, and he was surprised to observe that the morphia reproduced the anæsthetic effect of the previous dose of chloroform. More recently, this experiment was modified, so that a dog narcotized by morphia was completely and quickly anaæsthetized by a quantity of chloroform very much smaller than would have been necessary to produce this effect in a dog in normal condition. It was further found, that when the anæsthesia had nearly disappeared, a second dose of morphia almost immediately reproduced it. It is well known that anæsthesia cannot be induced by

morphia. This alkaloid exalts the sensory excitability, and induces torpor and narcotism; it never destroys sensibility. Chloroform, however, rapidly suspends the sensory excitability. It is, therefore, somewhat remarkable that the anæsthetic action of chloroform should be increased and prolonged by morphia. Dr. Bernard believes that this can be explained only by supposing that the action of the one substance is superimposed on that of the other. When an animal is recovering from chloroform-anæsthesia, the quantity present in the blood is insufficient to completely suspend sensibility, although it is sufficient to greatly diminish it; but as morphia blunts the nervous sensibility, it aids the action of the chloroform, and thus a quantity of the latter, in itself insufficient to produce complete anæsthesia, becomes sufficient to do so when assisted by morphia. Bernard points out that this combination admits of several valuable applications, and that, indeed, it promises to be the best method of inducing anæsthesia. By administering a dose of morphia before commencing the inhalation of chloroform, anæsthesia is induced without any initiatory stage of excitement, and without incurring the risk of those accidents which are occasionally caused by large doses of chloroform.

ART. 112.—*On a Solution of Morphia for Hypodermic Injection.*

By WILLIAM MARTINDALE, Dispenser and Teacher of Pharmacy to the University College Hospital.

(*Pharmaceutical Journal*, February.)

The mode of administering opiates hypodermically, whereby a much less dose proves efficacious, and the derangement of the stomach and other disagreeable effects, when taken by the mouth, are avoided, has almost become universal in cases where these objections would tend to prohibit their use. To quote Sir William Jenner:[1] "Who that has suffered from a painful local affection can think of the alleviation to his sufferings which followed on the subcutaneous injection of an anodyne, without gratitude?"

The solution for the purpose should be an aqueous one, neutral if possible, and of such strength that six minims contain a maximum dose. The syringe commonly used is graduated up to six minims. In addition to this graduation, some have the piston worked by a screw, of which so many turns are equal to a minim; others are worked by pressure in the ordinary manner.

A solution of morphia—one grain in six minims, the most convenient strength—may be made by first dissolving one drachm of the acetate (recently prepared) in about four fluidrachms of hot distilled water, adding a drop or two of diluted acetic acid, if the solution be not complete. Filter into a graduated measure while hot, and, the fluid being all passed through, wash the filter by sprinkling over it sufficient distilled water, that the whole filtered product, when cold, may measure exactly six fluidrachms.

It is important that the acetate of morphia be recently prepared. It has then, as found in commerce, a faint acetic odor, and is an almost pure white dry powder. If of a pale brownish-gray color and having a somewhat musky odor—characteristic of age—it will be less soluble. This is not due to the loss by volatilization of acetic acid merely, as this loss, if replaced, and a complete solution effected by applying heat—the strength of one grain in six minims being adhered to—the solution, probably on account of the salt having undergone some molecular change by keeping, will, when cold, become a mass of feathery crystals.[2]

The solution should not be kept long. When prepared as above, it is almost void of color, but gradually changes to a vinegar-brown. If the acetate of

[1] See Sir W. Jenner's Address, delivered before the British Medical Association at Leeds, 1869.

[2] A case of this kind came under my notice in which a physician had a solution of the above strength prepared at one of the leading dispensing establishments; when required for use, what was intended for a solution was found to be a mass of crystals

morphia be not quite fresh, this color is produced in the solution when first prepared.

Where there is not much demand for the acetate, it will be impossible to have it *always* recently prepared. In such cases it would be better to prepare the solution direct from pure morphia and acetic acid, using 25 per cent. less than would be required of the acetate, to allow for the combined acetic acid.

To make six fluidrachms of the solution in this manner, forty-five grains of morphia and about four fluidrachms of diluted acetic acid will be required. Mix them in a small flask or ordinary ounce phial, and apply the heat of a water-bath till dissolved, adding a drop or two more of the acid, if necessary, being careful that the solution at last is neutral or only slightly acid. Filter as directed above, and add sufficient distilled water to make six fluidrachms. In this solution one grain of pure morphia will have been dissolved in eight minims, and it will contain one grain of the acetate in six minims.

Other salts of morphia might be used with advantage. Among these, the so-called bimeconate is very soluble, and makes a tolerably stable solution. Injected, it appears to be quite as active as the acetate, although it represents about one-fourth less of pure morphia; but being uncrystallizable, its composition as generally made may not be so uniform. The citrate is likewise a very soluble salt.

The hydrochlorate and sulphate require upwards of sixteen parts of water to hold them in solution. This prohibits their use for injecting hypodermically, as a large dose could not be conveniently administered by the syringe in ordinary use. As regards the sulphate, this statement is opposed to the statement of Abl, quoted in Gmelin's *Chemistry*, and Storrer's *Dictionary of Solubilities*, that it is soluble in two parts of water at 18.75° C. (about 66° F.). From repeated experiments, both with the freshly-prepared salt and others, I find this to be an error. This salt of morphia, which is easily crystallizable and very stable, is most preferred in the United States.

Art. 113.—*On the Effect of Opium and its Derivative Alkaloids.*

By S. Weir Mitchell, M.D., Member of the National Academy of Sciences.

(*Medical Journal of the Medical Sciences*, January.)

The conclusions which Dr. Mitchell has arrived at in regard to the influence of opium alkaloids on birds are as follows:—

1. Birds: namely, ducks, chickens, and pigeons, are never poisoned by crude opium, its aqueous extract, or acetum opii (black drop) given internally; while the salts of morphia must be given in enormous doses to produce fatal effects when administered in the same manner.

2. Morphia salts, used hypodermically in excessive amounts, never cause sleep or stupor, but act as excitants (convulsants) upon the motor centres. In some instances, the spasms are tetanoid in character; but in the duck they approach nearest to the typical strychnic spasm.

3. Thebaia is a tetanizing agent, only inferior in energy to strychnia and brucia.

Narcotina, almost inert in man, destroys birds when employed hypodermically, in doses of from 2 to 7 grains.

Codeia is a fatal convulsing agent in birds (pigeons.)

Meconin causes emesis when given internally, and is harmless if placed under the skin.

Narceia has no perceptible influence, except to disturb slightly the respiratory function.

Cryptopia in doses of one-fifth to half a grain has no effect.

None of these agents cause sleep in the pigeon, duck, or chicken.

The inaction of ingested opium is due, as Dr. Mitchell believes, to two causes.

First, to the very great slowness with which it, as well as morphia, is

absorbed. This is shown by the fact that, twenty-four hours after a full dose has been given, the pigeon may vomit it in large quantities. In a few cases, the greater bulk of what he had given was thus rejected; but in many others all was retained.

The remaining amount of protection necessary to constitute an insurance against fatal results, must be due to the great difficulty with which pigeons, especially old birds, are poisoned by opiates. Probably elimination is sufficiently rapid to protect the system against a dangerous accumulation of the drug; but since the feces and urine are evacuated from a common cloac, the author has been unable to study the rate of excretion in a satisfactory manner.

Pigeons, and probably other birds, seem to possess the same peculiarity which causes certain men to exhibit, under opiates, only excitement of the motor ganglia, emesis, and a restlessness, which, with fuller doses, might possibly eventuate in convulsions. The normal sleep of these birds is not nearly so profound as that of man; and, on the other hand, their motor nerve system enjoys the faculty of evolving an enormous amount of force, and, as compared to their cerebral manifestations, is far more prominent. It is possible that we may discover that equivalent doses may effect more profoundly, in the direction of stupor, the creature taking them in proportion as its cerebral development is greater and its brain more active. Such, at least, seems to be the probable conclusion from a general survey of the effects of morphia on various classes of animals; while, especially in mammals, it will, Dr. Mitchell thinks, be discovered that individual peculiarities come in to modify the result, as they never so distinctly or so frequently do in the lower grades of animal life.

Art. 114.—*Action and Uses of Ipecacuanha.*

By C. D. Phillips, M.D.

(*The Practitioner*, Nov. 1869.)

Dr. Phillips extols the efficacy of the simple powdered ipecacuanha and its wine. It is, he justly considers, an exceedingly safe emetic, and is an unquestionable diaphoretic, whether given in the form of Dover's powder or vinum ipecacuanhæ.

It "exerts a power over all diseased mucous membranes in checking profuse mucous secretions, whether from the air-passages, the alimentary canal, or the genito-urinary apparatus. It is a most useful remedy in spasmodic coughs attended with profuse mucous expectoration and vomiting, especially in those troublesome coughs, accompanied by vomiting, which are incident to pregnancy. Its beneficial operation is clearly discernible in most cases of continued and obstinate retching or vomiting, where the stomach is not primarily affected, but disturbed by sympathy with some other part or organ of the body, whether the primary affection be acute or chronic. There are cases of sickness and spasmodic cough during pregnancy, accompanied by ulceration of the uterus, which fail to yield to it; but in many of these cases it will succeed if a few doses are administered before the patient raises her head in the morning."

He states that he "has now before him twenty-three carefully recorded cases of whooping-cough. In most of these the cough came on in violent paroxysms, continued until a quantity of viscid mucus was ejected from the lungs by the mouth, and often by the nostrils, and increased in intensity until the contents of the stomach were evacuated.

"In all these cases, where the vomiting had been more troublesome than the whoop, ipecacuanha has given more marked relief.

"The dose recommended is half a drachm of the vinum ipecacuanhæ in four ounces of water, a dessert-spoonful to be taken every one, two, or three hours, according to the severity of the cough. Children under five years old should only take a teaspoonful of the same mixture, but many children of this age can tolerate, and are benefited by, much larger doses."

In the capillary bronchitis of children, even when complicated with croupy symptoms, it acts well. In these cases the writer orders ʒss of vinum ipecacuanhæ to four ounces of water, a teaspoonful to be taken every one or two hours, or much more frequently if the symptoms are urgent.

In many cases of nocturnal spasmodic asthma, in which hours are spent in great distress, with livid face and lips, loud wheezing throughout the chest, and want of breath, causing fear of suffocation, if there is no organic disease of the heart or the lungs, ipecacuanha will give quick and marked relief. Five drops may be taken as a dose, repeated every ten to thirty minutes for two or three hours, unless relief comes much sooner, in which case the dose should be diminished and taken less frequently. Care should always be taken to avoid its emetic or nauseating effect.

In these affections of the lungs, its expectorant and anti-spasmodic character cannot be doubted, nor its curative action in controlling and stopping the abnormal secretion of mucus.

Hemorrhage in the early stage of tubercular phthisis, and in most stages of this disease, when produced by engorgement of the bronchial mucous membrane, and accompanied by little or no acceleration of pulse or increase of temperature, is often readily stopped by ipecacuanha. In hæmatemesis arising from vicarious menses, and also in some cases of menorrhagia, it is very useful.

In many cases of dysentery it lessens the bloody and mucous discharge, and removes the cutting pains and tenesmus, especially in the early and late stages of the disease. In cases of dysentery or diarrhœa, where nausea, vomiting, or retching exists, ipecacuanha will stop the sickness, and at least control the dysentery or diarrhœa. The watery diarrhœa during dentition, the diarrhœa with green evacuations, and the dysenteric diarrhœa, which are so common among children, rapidly yield to this drug. Vinum ipecacuanhæ is effective in dysentery and diarrhœa, but the writer has preferred the pulvis ipecacuanhæ, considering its action more speedy and trustworthy.

It is more necessary to vary the dose in dysentery than in any other class of cases, one grain every one or two hours being quite sufficient with some persons, whereas others require ten, twenty, or more grains as a dose. These larger doses sometimes, when first administered, bring on vomiting, which it is well to avoid; but if the patient is kept lying on the back, and the dose persevered with, it can generally be tolerated, and a rapid recovery often follows.

In the diarrhœa and dysenteric diarrhœa of children, one-fourth to one-half of a grain, with a little white sugar, at intervals of one to three hours, is generally sufficient, but the quantity must be increased if necessary.

Art. 115.—*Physiological Effects of Curara.*

By Prof. Paul Bert.

(*Archives de Physiol.*, No. 5, 1869.)

Professor Bert has made some curious observations on a curarized dog. After paralysis appeared, artificial respiration was started, and continued regularly by means of the ingenious apparatus of M. Gréhant. The right vagus and sciatic nerves were then exposed and tied. During the succeeding six hours the action of the nerves, the condition of the pupils, &c., were hourly observed, with the following constant results: the pupil of the right side was contracted, while that of the left was widely dilated; galvanization of either vagus caused dilatation of the pupil, with projection of the eyeball and complete stoppage of the heart's action. The left iris contracted under the action of light. An interesting result was obtained when galvanic stimulation was applied to the central portion of the tied (right) sciatic nerve, or to the median nerve—viz., contraction of the bladder, which produced, the sphincter being paralyzed, the voiding of a small quantity of urine. This effect could be produced only through the intervention of the sensory nerves of animal life; for it did not follow excitation of the vagi, the sympathetic in the neck, nor the splanchnic nerves. The interest of this observation is apparent when its value is considered in explain-

ing certain well-known phenomena, dependent on the relations between the bladder and the sensory nerves, such as the desire to urinate caused by a sensation of extreme cold, or by entering a bath of cold or hot water. In this experiment also Dr. Bert discovered the presence of sugar in the saliva.

Art. 116.—*Oxide of Silver in Whooping-Cough.*

By William Macfarlane, M.D., of Ballarat.

(*Australian Medical Gazette*, December 15, 1869.)

That oxide of silver shortens the pertussis, Dr. Macfarlane has every reason to believe. This remedy has been employed by him with unvarying success for some years. He is not aware that this drug has heretofore been administered as a remedial agent against whooping-cough. It has also been tried in a case of asthma with marked amelioration of symptoms.

Dose.—One sixth of a grain, three or four times daily, in any simple powder, up to one year of age.

Art. 117.—*Permanganate of Potassa in the Treatment of Certain Female Diseases.*

By A. M. Williams, A.M., M.D., of Springboro', Crawford County, Pa.

(*American Journal of the Medical Sciences*, January.)

Dr. Williams desires to call attention to certain uses of permanganate of potash, which, so far as he is aware, have not been alluded to by writers. This salt has of late received favorable notice in the journals, and is certainly one of the most valuable articles of the Materia Medica to the surgeon. From his own experience Dr. Williams is led to believe that it may likewise be made of great value to the obstetrician and gynæcologist. The cases in which the author has found this salt most useful have been those of *excessive purulent* and *prolonged lochial discharge.*

A year ago Dr. Williams was called to see a woman who had been confined about two weeks previous to the visit. She was a primipara, small, and of strumous constitution. The person who attended her during labor was a homœopathist. The labor seems to have been an easy one; the lochia was more than usually abundant, and on the fifth or sixth day it became purulent and highly offensive, growing more so continuously until the author was called. The patient and her husband became much alarmed, and sent for the doctor who had attended her, but were assured that nothing could be done; that it would cease in time, and that interference would be positively dangerous. On Dr. Williams's first visit the discharges were so indescribably offensive that no one could long endure to remain in the room. With a view chiefly to remove this, and for purposes of cleanliness, a solution of permanganate of potash was ordered, grains 10 in a pint of tepid water, to be used by injection, copiously, twice a day. In two days Dr. Williams made another visit, found all the stench removed, and the discharges not only natural in appearance, but far less copious. The treatment was continued two days longer, and the patient was pronounced cured.

The happy manner in which the salt acted in this case induced Dr. Williams to try it further in similar cases, and always with like results. He had used it, however, with a view only of destroying the fetor, but he observed not only a speedy change in the character of the discharge, but a marked diminution in the *quantity.* This led him to presume that in simple cases of *excessive lochia* it might be of service. Dr. Williams regrets that he has not had more abundant opportunities for testing this, and will only say that in two cases of prolonged and excessive discharge that have recently come under his notice, the use of this agent was followed by very speedy relief.

Art. 118.—*The Composition of Chlorodyne.*

By Edward Smith, F.C.S.

(*Pharmaceutical Journal*, January.)

Mr. Edward Smith reports, in the *Pharmaceutical Journal*, an inquiry into the composition of this well-known secret remedy. Hitherto, of the formulæ which have been published, two—one by Dr. Ogden, the other by Mr. Squire—have attracted most attention in this country. The difference between these lay essentially in the presence of Indian hemp and capsicum as indicated by Ogden, their absence in the formula given by Squire. But besides this, the proportion of morphia, as given by the two authorities, differed greatly. About the three important ingredients—chloroform, morphia, and hydrocyanic acid—there can be no doubt; no more can there be about oil of peppermint and treacle. The question is whether anything else exists in the compound. Mr. Smith thinks there is no Indian hemp, because the alcoholic extract is soluble in water; but then there is capsicum, as, after the chloroform and ether, which also give pungency to the mixture, have been distilled off, the substance left behind has a hot peppery taste. He seems to have taken much pains with the analysis. Here is the composition he assigns to chlorodyne:—

℞.—Chloroformi, f℥iv.
Morphiæ mur., gr. xx.
Æther. rectif., f℥ij.
Ol. menthæ pip., ♏viij.
Acidi hydrocyanici dil., f℥iv.
Tinct. capsici, f℥vj.
Mist. acaciæ, f℥j.
Theriacæ, ad f℥v.

This is not quite so dark as the original, as no caramel is used. Mr. Smith suggests for it the title Liquor Chloromorphiæ Co., as not likely to be confounded with that of any other compound.

Art. 119.—*On the Toxic Value of Certain Products of the Phenic Group.*[1]

By M. P. Guyot.

(*Gazette Hebdomadaire*, No. 4, 1870.)

1. Phenic acid acts upon the skin, and produces symptoms characteristic of inflammation and tumefaction.
2. The action of phenol is mild when the temperature is low; it is a much more active agent when the temperature is elevated.
3. Pure rosolic acid and coralline are not injurious, and do not act upon the epidermis; when impure they are toxic agents.
4. Rosolic acid may act upon the skin either by the sulphuric acid or by the phenol which it contains, according to the mode of preparation.
5. Coralline prepared with impure rosolic acid and an excess of ammonia, is injurious when introduced into the animal economy; it acts then in consequence of the aniline which it contains. It has no action upon the skin.
6. Prepared as in the two other cases mentioned above, coralline acts upon the skin through the phenol which it contains.
7. Active rosolic acid may be purified by means of benzine.

---

[1] Communicated to the Académie des Sciences.

ART. 120.—*Self-Illuminating Ophthalmoscope.*

By LIONEL BEALE, F.R.S.

(*Medical Press and Circular*, April 6.)

Dr. Lionel Beale has devised an instrument for ophthalmoscopic examinations, which promises to be a boon to future observers. A simple brass telescope tube, about an inch in diameter, has a lamp fixed to one side of it, and with another tube, in which is placed a reflector and ophthalmoscopic lens. This arrangement entirely obviates the necessity for the dark room for ophthalmoscopic observations. The patient is told to look with the other eye at an object some twelve feet distant, in order to enlarge the pupil. These ophthalmoscopes are made by Mr. T. Hawksley, 4 Blenheim Street, Bond Street, and with lamp and two lenses complete, cost two guineas.

ART. 121.—*The Stetho-Sphygmograph.*

By T. HAWKSLEY, M.D., M.R.C.P.

(*The Lancet*, December 18, 1869.)

At a meeting of the Medical Society of London, on Nov. 8th, Dr. Hawksley read a paper on the "Stetho-Sphygmograph," as an aid to the physiological and pathological investigation of the functions of respiration and circulation. He exhibited the practical application of the instrument on a case of phthisis pulmonalis, and one of well-marked mitral regurgitation. In every case three simultaneous and synchronous tracings of moving organs are taken—as, for example, the two lungs and the radial pulse; or the heart, the radial pulse, the carotid or the femoral. It was shown that the tracings would show any disparity in the action of the two lungs, also the relation of inspiration to expiration; and, associated with the pulse tracing, it afforded the opportunity of observing, not only the peculiarities or modifications of the circulation, as in the case of Marey's sphygmograph, but in addition, their relation to the respiratory process. By aid of this instrument, any question as to relative time in the transmission of the blood-wave through the arteries may be solved; as, for example, the time occupied in transmission to the radial, the carotid, or the femoral artery. This may be found to have important connection with the diagnosis of aneurisms and tumors, as well as with diseased states of the arteries with chronic diseases of organs.

ART. 122.—*The Use of Carded Oakum as a Surgical Dressing.*

(*The Lancet*, January 8.)

We are anxious to call attention to a mode of dressing wounds and sores by carded oakum, which has been introduced by Mr. Pollock, at St. George's Hospital, and which we are disposed to think will supersede, to a great extent other methods. Carded oakum was largely used by the American army in the late war; and it has been also used, we believe, at one or two hospitals in this country—the Children's Hospital in Great Ormond Street, for example; but this is the first time we think, that it has been employed in a large general hospital. Mr. Pollock began by using coarse picked oakum, about five or six months ago; but has since procured a better quality from Bell's, in Oxford Street, who now supply the hospital. There are two qualities, one somewhat finer than the other; but Mr. Pollock prefers the coarser of these, which is simply rope shredded in prisons and workhouses, and carded by machinery. It is of a bright brown color, with the well-known tarry fragrance. A little of the material is roughly drawn into a suitable shape for covering the wound, then wetted, and applied to it. All discharge is absorbed by the oakum, and any bad odor is effectually destroyed. It seemed to us, as we examined a suppurating wound in one of Mr. Pollock's

cases (excision of the shoulder-joint) thus dressed, that the tarry principle in the oakum did more than mask the foul odor; it appeared to destroy it. Nothing whatever could be perceived but the pleasant smell of rope so strongly suggestive by association of the sea and ships. Mr. Pollock has employed carded oakum in burns, amputations, senile gangrene, and abscesses of various kinds. He uses it after every operation, as soon as any discharge appears. It effectually supersedes, according to his experience, the use of lint, lotions, ointment, or poultices, is cheaper than most other dressings, and more easily applied. In cases of inflammation, by dipping it into hot water and then covering it with oil-silk, a convenient antiseptic poultice is provided, easily made, light, and answering perfectly its purpose. In private practice, carded oakum is likely to become extensively employed, on account of its cleanliness, economy in price (Bell sells it for about 1s. a pound, but it will doubtless become still cheaper), and also from the fact that its application is so simple and easy. In bedsores it would be, we should think, peculiarly useful, as, in addition to its other qualities, it would mechanically assist by acting as a pad.

ART. 123.—*On the Clinical Uses of Electricity.*

By J. RUSSELL REYNOLDS, M.D., F.R.S.

(*The Lancet*, March 5.)

Dr. Russell Reynolds says there are three modes in which electricity is applied in medicine. One is simply to insulate the patient on a glass-legged stool, and charge him with electricity from the prime conductor. This plan will sometimes cure sciatica or tic. There are two modes in which galvanism is used, continuous and not continuous. The continuous current, made by introducing the body into the circuit of the battery, will relieve spasms in some cases, or headache, or tremor. When weak this current produces little or no pain. In the interrupted current, with which all are familiar, the "direct" application—*i.e.*, the application of the positive pole of the battery with the upper part of the limb, produces more obvious effects on the muscles than does the "inverse." The third form, Faradization, or magneto-electric electricity, is of high tension, causes no sensation of heat, but produces marked contraction of muscles and powerful effect on the nerves. It exists only at the moment of making or breaking the galvanic current. No conclusion can be come to as to the irritability of a limb in palsy if one experiment be compared with another—one with an induced, the other with a battery current.

ART. 124.—*Thermometric Observations in Clinical Medicine.*

By J. F. GOODHART.

(*Guy's Hospital Reports*, vol. xv.; and *British Medical Journal*, March 19.)

The mode of using the thermometer is somewhat different from the one usually adopted. The author retains it in the axilla only three minutes; "but the bulb is held there, the thumb and finger keeping it in close approximation with the skin" all the time. He defends the brief period of time on account of the diurnal variations, and gives instances of fluctuations in health and disease from his own observations and those of Dr. A. H. Garrod. From independent observations he arrives at the conclusion that rigors depend upon a disturbance of the balance of the circulation, and are accompanied rather by an increase than a diminution of arterial tension. The general results of his observations on zymotic diseases, ague, &c., confirm those of Wünderlich and other observers, the figures being rather lower from his method of observation. The following, however, are deserving of special notice. In two cases of syphilis in the eruptive stage, the evening temperature in one exceeded the morning by from .2 to 1.2 deg. Fah.; in the other, by 2 to 2.8 deg. In a case of tertiary syphilis, the evening temperature was from ½ to 1 deg. Fah. higher than the morning on

several occasions. Under acute rheumatism he gives the following statement. Nine cases treated with alkalies had an average maximum temperature of 101.2 deg.; 7 cases with lemon-juice, of 102.5 deg.; 9 cases with various drugs, calomel, opium, aconite, &c., of 103 deg. In uncomplicated cases of pleurisy, the temperature never rose above 100 deg. Again, in 6 cases of peritonitis, the same thing was observed. In a case of leucocythæmia, the temperature varied from 99 to 101 deg., with evening exacerbations, thus resembling tuberculosis. His observations on the effects of quinine, alcohol, and baths, on temperature, are very interesting. Thus of 18 cases where quinine was given, it either appeared to arrest the rise or cause a fall in 11; while of 20 cases treated with alcohol, only 6 appeared affected, and those not very greatly. But he admits that the mode of experimenting was not quite parallel in the two kinds of experiments. The article concludes with some striking instances of the use of the thermometer in diagnosis, and with a table of 43 observations on patients *in articulo mortis* from various diseases and accidents: of these, 35 had a temperature at or above normal (96 to 98.6 deg. being considered normal); eight were lower than this.

Art. 125.—*Cases of Cholera treated by Hypodermic Injection of Liquor Ammoniæ.*

By A. Christison, Civil Surgeon, Agra.

(*Indian Medical Gazette*, October, 1869.)

The following cases are placed on record by Mr. Christison :—

Case 1.—A European girl, aged thirteen, was admitted into hospital at the Roman Catholic Institution at Agra, on the morning of the 11th of August. When I saw her she was collapsed, with no pulse to be felt in the arm or at the temples; her senses, however, were clear. The usual application of mustard plasters to the loins, stomach, and legs, and hot bottles where required, had been made, and the diffusible stimulant treatment had been steadily carried on. Having watched for some time, and seeing no progress had been made, I injected ammonia, as recommended by Dr. A. R. Young, of the 60th Royal Rifles. Ten minims were injected near the shoulder, and fifteen minims soon after on the back of the hand. The girl complained a little of the pain, but did not withdraw the hand. In a few minutes she became somewhat less collapsed, and expressed herself as better, and in the course of half an hour the pulse had returned at the temples, but not at the wrist. Two hours after this the pulse was perceptible at the wrist, and the patient was soon out of danger.

The ammonia caused rapid reddening of the skin, and death of a portion, of the size of a small almond. The girl did not ultimately survive, for, during convalescence, she had violent hemorrhage from the mouth and nose, and died from exhaustion. I observed no very prominent effects from the ammonia, but there was a very gradual improvement after the injection, which, I think it fair to believe, may have been due to that treatment.

Case 2.—On the 13th of August, I found a girl of thirteen in a state of collapse in the same institution, but not actually pulseless. The usual treatment was of no use; therefore, seeing that the pulse was gone, I injected 18 minims of ammonia near the shoulder in two portions. The girl was quite in her senses, and said she felt better, complaining, not of the injection, but only of the mustard applications. I could trace no general effect, and no return of pulse from the ammonia.

About two hours afterwards, as she was much worse, I injected 20 minims near the other shoulder, but no effect whatever could be observed, and the patient died at 2 P.M.

Case 3.—A native traveller was admitted into the Thomason Hospital with cholera, nearly collapsed, but with pulse quite perceptible. Twenty minims of ammonia were injected near the shoulder by Sub-Assistant Surgeon Beepin Beharry Bose, in my presence, and the case was watched carefully by him, and Sub-Assistant Surgeon Doyal Chunder Shome, M.B. They observed no improvement in the pulse or in the man's general condition. The injection was repeated when he was further exhausted, but without any effect, and the man died.

"Though these cases are not encouraging, I hope that further experiments will be made with ammonia and other substances used by the hypodermic method, as it appears to me this is the direction in which we may yet hope to obtain success.

"The liquor ammoniæ used was weak, the density being nearly 1000, instead of 0.950; but I found that liquor ammoniæ fort. was no stronger, owing to evaporation due to the heat. Perhaps better results might be attained by using strong ammonia prepared and preserved for the purpose."

ART. 126.—*On the Therapeutical Employment of Compressed Air in Asthma and Emphysema.*[1]

By Dr. GENT.

(*Archives Générales des Médecine*, Décembre, 1869.)

According to Dr. Gent, compressed air is a sedative agent both to the circulation and the respiration, and a tonic to the bronchial mucous membrane. It is suited to all the diseases of the respiratory passages; laryngitis, bronchitis, catarrh, chronic pneumonia, emphysema, asthma, and whooping-cough. From its exciting digestion and the great quantity of oxygen it transmits to the blood, it is especially suitable in cases of chloro-anæmia.

ART. 127.—*On Cutaneous Absorption.*[1]

By Dr. BRÉMOND.

(*Gazette Hebdomadaire*, No. 4, 1870.)

The following are the chief results derived from a course of experiments made at the Imperial Asylum of Vincennes:—

"The cutaneous absorption of non-volatile medicinal substances cannot be denied, and has been established in a most decided manner by experimentation.

"In ordinary cases it is only possible at a temperature of 38 degrees (centigrade).

"By the previous employment of a vapor bath, followed by soaping and energetic friction over the whole body, one may cause iodide of potassium to be absorbed by the skin, at temperatures below that of the body.

"In a vapor bath the amount of absorption increases in direct proportion to the elevation of the temperature of the bath, its duration, and the quantity of iodide of potassium.

"The elimination of this salt commences about an hour after the bath, and ceases within twenty-four hours.

"After the patient has taken from ten to a dozen baths, elimination takes place during three or four days; if from twenty-five to thirty baths have been taken, it persists for eight or ten days."

ART. 128.—*Hyposulphite and Bisulphite of Soda in Intermittent Fever.*

By JOHN P. LITTLE, M.D., of Richmond, Va.

(*American Journal of the Medical Sciences*, January.)

For some years past Dr. Little has been using the hyposulphite and also the bisulphite of soda as a substitute for quinia in the treatment of intermittent and remittent fevers.

It was first used as a febrifuge in measles, scarlet fever, and similar affections; accidentally its value in fevers of a malarious origin was discovered, and Dr. Little at once gave it a thorough trial.

---

[1] Communicated to the Académie de Médecine.

Intermittent forms of fever prevailed very extensively immediately after the war; and as quinia generally failed to give relief, Dr. Little made free and frequent use of this remedy, and with marked good effect.

He has used it in his own case; quinia had failed in removing his fever, although it had succeeded in producing an intense headache; the hyposulphite speedily relieved him.

For an adult the dose is from ten to twenty grains every three or four hours. Dr. Little has given thirty grains every two hours in cases of high fever. Dissolve each dose in a wineglassful of water. As it is a mild laxative there is no necessity for the use of purgative medicine. Of the two salts, Dr. Little considers the bisulphite the better in its effects.

ART. 129.—*Hæmostatics.*[1]

By WILLIAM HARGRAVE, F.R.C.S.I., Professor of Surgery in the Royal College of Surgeons in Ireland.

(*Medical Press and Circular*, February 23.)

The following extracts show that there is no unanimity of practice among the following five hospital surgeons of London:—

Guy's Hospital.—The surgeons have not used the ligature for two or three years; all the vessels were twisted.

St. Bartholomew's Hospital.—The ligature was almost the invariable practice; acupressure seldom or never practised.

London Hospital.—Mr. Maunder has extensively used torsion, and with excellent effects.

St. Mary's Hospital.—Mr. Gascoigne did not remember to have seen the practice used once—*i.e.*, torsion.

University College Hospital.—Mr. Heath had used torsion, and was well contented with his success.

Middlesex Hospital.—The only one where any stand was made for acupressure, torsion had not been employed to any extent; Mr. Moore was too perfectly well satisfied with the result of acupressure to use any other method.

Paget states that torsion had been practised at Hamburgh for fourteen years, and had to be given up, though it had excluded the ligature for that period, partly from its tediousness, and partly from one reason, want of confidence in it. He thought well of acupressure, as it had succeeded with Keith and Pirrie; no secondary hemorrhage had occurred when this method was used. He commended the ligature as very secure.

In a paper before the Surgical Society of Ireland, by Dr. McDonnell, he advocates the torsion of arteries, as it seems, to the exclusion of all other means for arresting hemorrhage. Surgeons possess no less than seven ways for controlling hemorrhage from arteries—the ligature, acupressure, torsion, or twisting, then actual cautery or cauterization, cold, styptics, and compression by suitable means. Mr. Hargrave confines his attention to the first form of these methods: 1. The ligature, which he designates as the *instrumentum instrumentorum*, for completely arresting hemorrhage from an artery, if made of a proper material, and properly applied, for which purpose he would refer to Jones *On Hemorrhage*, it will still support the test of its virtue, which it had maintained since the time of its inventor, Ambrose Paré. Whether the patient is under any anæsthetic or otherwise, it is readily and expeditiously applied, even by an inexperienced surgeon. Whether is silk or hemp the best material to use? The author is satisfied that the last is the best, and produces no irritation, and retains its integrity and strength as long as it remains on the artery and in the wound. The hempen ligature which Mr. Hargrave used on the left common iliac artery, when cut off from the vessel on the twenty-first day, was as sound and strong as the first moment that it had been applied. Mr. Paget is in favor of the ligature. 2. Acupressure has been tried, the author will not say found wanting, but it has

---

[1] Read before the Surgical Society of Ireland.

few advocates, and in some cases is not easy of application. Mr. Hargrave has never used it himself; it was tedious, and in some cases delay and difficulty occurred in withdrawing it from the stump. In one case he witnessed the attempt to compress the anterior tibial in amputation; by this means it did not succeed, when the now apparently superseded ligature was brought to the rescue, and successfully secured the bleeding vessels. 3. Torsion, or twisting, may have its advantages, but also disadvantages in its application. As to the number of twists, few or many, which it appears to require, can only be defined by much practical experience, derived from extensive hospital opportunities. The author has used it himself upon small arteries, but never upon the femoral or brachial, and would not do so unless he had Amussat's two forceps, one to secure the vessel transversely, the other to twist it below the seizure by the transverse one. As to the value of torsion in controlling arterial hemorrhage, Mr. Erichsen says, "whatever way it is practised, more particularly when the end is twisted off, it possesses the great disadvantage of being less safe, and is certainly far less safe than the ligature on the larger arteries; the smaller arteries in operation may be twisted."—Erichsen's *Science and Practice of Surgery*, vol. i. p. 176.

Mr. Heath, who is a great advocate for it, says that "torsion before everything needs good eyesight; that surgeons, finding the difficulties of the method increasing with increasing years, mostly returned to the old ligature, and that their pupils, seeing the change in their seniors' practice, and not perceiving the motive, themselves abandon torsion!" It is Mr. Hargrave's sincere desire that the pupils will still follow their seniors in depending upon the simple ligature till something superior to either torsion or acupressure is given to them. 4 Cauterization can be classed with the antique, with the candescent iron, if possible, at a white heat, not painful, and the modern, which is named the gas cautery. In the cases which cannot be acted upon by the means now examined, the actual cautery is our *ultimum remedium*, and occasionally averts all hemorrhage. As to what is named the gas cautery, Mr. Hargrave has seen it used *ad captandum*, and the assistants' fingers bled from its fiery wild effects, but it was of no use to stay the arterial hemorrhage from vessels of any size; it is a mere bagatelle, and may be called the sensational but useless cautery. In the report of the meeting on the important subject of hæmostatics in the London Clinical Society, and in the Surgical Society of Ireland, one important omission Mr. Hargrave thinks has been made by both—they have merely attended to mechanical means, without ever considering the condition of the blood, whether in health or not. This state of it is of much consequence to the surgeon; by attending to it he can leave his patient with an easy mind, almost to a certainty that there is no risk of secondary hemorrhage. On the contrary, he must be on the alert for some time, in expectation of secondary hemorrhage occurring. To Mr. Hargrave the remarkable omission committed by all who have given us their ideas on this question, not one word or observation has been said or made on the subject of the coagulability or non-coagulability of the blood during the operation, which has been shed during its performance. If it coagulates, however the vessels have been secured it matters not, there is very little risk, if any, of secondary hemorrhage. If, on the contrary, there is no coagulation, the blood presenting the appearance of water colored red, however the surgeon may secure the ligature, acupressure, or torsion, let him be prepared for secondary hemorrhage. Mr. Hargrave believes the only means which he has of preventing it is to call in to his assistance a means which he has always at command, the exposure of the wound to atmospheric cold, which he can state, in some cases has completely controlled it. The author particularly alludes to those cases in which we see the blood oozing drop by drop, no coagulation, and the patient slowly sinking into death.

ART. 130.—*On Flexion as a Means of arresting Hemorrhage.*

By Dr. ADELMANN.

(*Langenbeck's Archiv*, Bd. xi., Heft 2, 1869.)

Dr. Adelmann reports six cases in which traumatic hemorrhage was permanently arrested after forcible flexion of the injured limb. The radial artery had been wounded in one case, the ulnar in two cases, and the palmar arch in one. One patient had severe bleeding from a wound near the elbow-joint, and the sixth case was one of gunshot wound of the right foot, followed at the end of eight days by severe arterial hemorrhage. In all instances there was complete recovery after the employment of forcible flexion.

The following conclusions are laid down by the author:—

1. Forcible flexion is a sure and ready method of hæmostasis in cases of wounds of the limbs.
2. It should always be tried before having recourse to caustics or to a bloody operation.
3. It may be tried after deligation of an artery has failed.
4. This method is to be especially recommended in military surgery.
5. It is desirable that the knowledge of this hæmostatic method should be vulgarized, so that the patient may be able to apply it whilst awaiting the coming of the surgeon.

ART. 131.—*A Case of Angina Pectoris relieved by Nitrite of Amyl.*

By F. E. ANSTIE, M.D., F.R.C.P.

(*The Lancet*, March 5.)

At a meeting of the Clinical Society of London, held March 5th, Dr. Anstie communicated a case of angina pectoris relieved by nitrite of amyl. The patient was a gentleman aged about fifty, of a highly nervous temperament, a sufferer for the last twenty years from spasmodic asthma, and very liable to facial neuralgia. Between four and five years since he began to suffer from severe and frequently recurring attacks of angina pectoris, and his life was for a long time in much danger. By the use of sulphuric ether in large doses, and of considerable quantities of alcoholic stimulants, the attacks were diminished in frequency and violence; but they have never ceased to recur at intervals whenever the patient was much fatigued or excited in the course of his professional work. In December last it was determined to try the nitrite of amyl, and on the recurrence of the next anginal spasm the sufferer took one long and powerful inspiration through one nostril from a half-ounce bottle of the drug. After a pause of a few seconds, the characteristic flushing of the face and sense of fulness in the head were induced, and the patient instantly passed from agony into a state of perfectly calm repose. The experiment has been several times repeated on the recurrence of the heart-pang, and always with complete success; and the result has been most fortunate, as the patient has been able to entirely dispense with the disagreeable necessity of taking large and frequent doses of ether, and also greatly to reduce his allowance of stimulants. There has also been much less trouble than formerly from asthma, and he has obtained far more natural sleep at nights. The angina, although very severe, appears to be purely neurotic; no cardiac change, or at most a small amount of dilatation, can be discovered by the most minute physical examination. From some further observations, Dr. Anstie believes that amyl is a relaxer of spasm in all involuntary muscular fibre, and that it would be particularly useful in colicky affections. He would not, however, advise its use by aged persons or others who might be likely to have commencing degeneration of the minute vessels of the brain, for fear of apoplectic accidents.

Art. 132.—*On Digitalis in Heart Disease.*

By Sydney Ringer, M.D.

(*The Practitioner*, January.)

Dr. Sidney Ringer considers that digitalis is eminently useful in cases of enlargement of the heart accompanied by dilatation, with dropsy, general venous congestion, and a frequent, feeble, fluttering, and irregular pulse, with or without valvular disease, and quite irrespective of the nature of that valvular disease. That is, he thinks it just as useful in obstructive or regurgitant aortic disease as in mitral, provided the above symptoms, and especially the irregularity of the pulse, be present. He thinks it of importance to give no more of the drug than is necessary for the relief of the patient; and that, in many cases, one drachm of the infusion twice or thrice a day will be be sufficient. Should, however, no improvement be observed after the lapse of four or five days, the dose must be increased. In other cases, both in young and old patients, an earlier stage of this severe disease may be present, characterized by palpitation, dyspnœa, tumultuous and often forcible action of the heart, with feeble and frequent but generally regular pulse, no dropsy, and no lividity of the skin. A mitral murmur, often accompanied by apex thrill, is generally to be detected, and sometimes the signs of aortic valvular disease are also present, but these signs do not contraindicate the use of digitalis in such cases, in which it is most useful in controlling the heart's action, increasing the firmness and fulness of the pulse, and relieving the dyspnœa. When no dropsy is present, there seems to be no diuretic action produced. Dr. Ringer believes that in all such cases digitalis acts by restoring order to the heart's movements, thus removing any regurgitation caused by irregular action of the columnæ carneæ, with the venous congestion and dropsy thereon depending. Hence it can only remove, with completeness, symptoms depending on dynamic regurgitation, leaving untouched those arising from organic valvular disease; so that, in a complicated case, it can only be productive of partial benefit, being only useful in proportion to the degree in which dropsy, &c., is due to the irregular action of the heart, and is independent of organic disease. Digitalis he considers very useful in cases where persisting palpitation, with or without slight mitral murmur, has been much aggravated by an attack of bronchitis, but of no use whatever where pre-existing lung-disease (emphysema) has become complicated by secondary heart-affection and dropsy. He also regards it as of no use, and possibly hurtful, in cases of aortic disease (obstructive or regurgitant), accompanied by palpitations, dyspnœa, and dropsy, but where the heart and pulse both beat regularly and without any intermission, the latter having frequently the characters significant of aortic regurgitant disease, with a pale waxy skin, no lividity, and no fulness of, nor regurgitation into, the jugular veins.

Art. 133.—*On the Properties and the Mode of Elimination of the Nitrites of Sodium and Potassium.*

By Dr. Rabuteau.

(*Gazette Hebdomadaire*, No. 8, 1870.)

1. The nitrites undergo oxidation in the economy and are transformed into nitrates. If the ingested dose be feeble, one gramme for example, these salts are entirely eliminated in the condition of nitrates; if the dose be strong, these are eliminated partially in their natural condition. The salivary glands seem to eliminate these salts with greater facility than the kidneys.

2. The nitrites are dangerous when given in doses which are relatively but slightly increased. In fact, five grammes of nitrite of sodium injected into the veins of a dog will cause death. It is the nitrite salt that causes death and not the metal; for it is known that sodium when combined with an almost inactive metalloid itself acts as an inoffensive metal.

3. One may range the nitrites among the poisons of the blood-corpuscles, on account of the changes which they produce in the blood. They are oxydized at the expense of the oxygen of the blood-corpuscles which they render incapable of hæmatosis; the consequence of this fact should be a diminution of urea. This diminution, however, has not been made out in man after the ingestion of feeble doses of nitrite of sodium.

ART. 134.—*Action of Various Substances on Urine.*[1]

By F. B. NUNNELEY, M.D., York.

(*British Medical Journal*, February 26.)

The author had made upon himself experiments as to the action of citrate and acetate of potash, of spiritus etheris nitrosi, and oil of juniper, on the urine in health. The method pursued was to estimate the water, urea, and solids of the urine each day for about twenty-eight days, during the middle twelve days of which the medicine was taken, the days before and after being medicine-free. Citrate of potash, taken to the extent of from ten to eighteen drachms in twenty-four hours, increased the water by 2½ ounces, and diminished the urea by 84 grains, and the solids by 60 grains. The acetate of potash, in daily doses of from 2½ to 3½ drachms, exerted a similar influence in a somewhat less degree. The spiritus etheris nitrosi (13 to 18 fluidrachms in twenty-four hours) slightly increased the water, and diminished the urea by 54 grains, and the solids by 122 grains. The oil of juniper (30 to 40 minims in twenty-four hours) slightly increased both the urea and the solids.

ART. 135.—*Copaiba as a Diuretic.*

(*Medical Press and Circular*, January 5.)

The physicians to the Middlesex Hospital are much in favor of copaiba as a diuretic. It is given in a mixture containing ten minims of copaiba; seven minims of liquor potassæ in a half-ounce of mucilage and caraway water. It seems to succeed in Bright's disease when other diuretics have failed.

ART. 136.—*On Haschisch in Hydrophobia.*

By Professor POLLI, of Milan.

(*Medical Press and Circular*, December 15, 1869.)

The following case is related by Professor Polli:—

"A man, aged thirty-eight years, was admitted into the Grand Hospital of Milan on May 12, 1860, who had been bitten by a mad dog a month previously, and who was already suffering with all the symptoms of hydrophobia. I determined to treat him solely by haschisch. I employed the brown-black extract which I had used in the experiments on myself. He was made to swallow half a gramme (7.7 grains) of it every four hours for five times, so that he took altogether 2½ grammes (38.5 grains) of this extract of Indian hemp. It was cut into small pieces and placed on the tongue; the swallowing of the drug was assisted sometimes by a little sugar, sometimes by a little milk, and sometimes by a little tincture of aniseed. The action of the haschisch taken by the mouth was aided by enemata of an aqueous infusion of coffee, 80 grammes (3.8 ounces) of powdered coffee to a litre (1.76 pint) of water, which was repeated. In a period of less than twenty-four hours this hydrophobic patient had taken two and a half grammes of extract of Indian hemp, and a litre of infusion of coffee by the rectum. This treatment did not dispel the characteristic phenomenon

---

[1] Abstract of a Paper read at a meeting of the Royal Medical and Chirurgical Society, February 8.

of horror at the swallowing of water or of any fluid; neither was there freedom of alvine dejections or of emission of urine. The patient remained very constipated, and the urine had to be removed by the catheter. The patient succumbed fifty-six hours after his admission into the hospital; but the evident effect of the haschisch taken was an amiable good humor, a species of gayety, and of reliance on medical aid; and the cessation of the delirium, the terror, and the convulsive madness which seizes on all hydrophobic persons to such an extent that it is necessary to use physical constraint. Bright light also, the reflection of shining bodies, currents of air or of the breath, which are insupportable by ordinary hydrophobics, in him produced no disagreeable impression. This patient was left at liberty, that is, without any bonds, lying free on his bed; and this tranquil state lasted forty-eight hours after the commencement of the treatment by haschisch, and was only interrupted by some convulsion or grimace, which slowly became more frequent, and by the menace of suffocation from the foam at the mouth as the mortal symptoms increased, until his death.

"The haschisch, without curing the hydrophobia, removed the greatest part of its horrible symptomatology; a result accomplished neither by opium nor by morphine, nor by daturine. Haschisch then is the best palliative or sedative in hydrophobia. It changes a raving, unmanageable, suspicious, aggressive maniac, who bites and who curses, into a poor invalid, content and tranquil, who blesses you."

Art. 137.—*Quinine as an Antipyretic.*[1]

(*Medical Press and Circular*, Dec. 8.)

The following remarks on the antipyretic praperties of sulphate of quinia are extracted from the *Report of the Medical Department of the Royal Hospital, Christiania, for the year* 1867 (*Norsk Magazin for Lægevidenskaben*, Bind xxiii. Hefte 1). The author, Dr. Fr. Stabell, says: "I have nothing further of special interest to mention respecting these 33 cases of typhus, except some experiments which were instituted for the purpose of investigating the effect of single large doses of quinine as an antipyretic.

"This is a subject to which Professor Liebermeister, of Bâle, has paid great attention, and he has published on it a long and very profound essay (*Deutches Archiv f. klinische Medicin*, third volume, first and sixth parts). He ascribes to quinine a decided and almost invariable temperature-reducing effect; and in proof of this adduces a number of temperature observation. I shall communicate the results of two of the experiments which were made in 1867. They are not so numerous that one can, to any extent, draw a conclusion from them, nor are they intended to do more than to contribute their share towards the corroboration of the experiments which were subsequently made. Quinine was exhibited in doses of gr. xx or gr. x in six typhus cases, at several separate periods.

"I shall give a brief outline of the history of the case, with the variations of the temperature and pulse in two of these patients:—

"Karen Kristoffersdatter, aged fifteen, admitted September 11, 1867. She had, fourteen days previously, had shivering, with subsequent nervous symptoms; all the time the motions were regular. On her admission, isolated rose spots were found upon the abdomen.

---

[1] Translated for the *Medical Press and Circular* from the *Norsk Magazin for Lægevidenskaben*, 1869.

Date.	Temperature.		Pulse.	Observations.
	Morning.	Evening.		
	°	°		
Sept. 11	—	100.6	120	
" 12	101.7	Not taken.	120	
" 13	Not taken.	104.0	—	Diarrhœa.
" 14	102.2	103.6	—	
" 15	100.8	102.7	120	
" 16	102.0	—	—	
" 17	—	102.9	—	
" 18	102.6	102.7	—	
" 19	101.7	101.8	—	
" 20	100.6	104.0	—	
" 21	101.7	103.3	—	Moderate diarrhœa, less stupor, rather more bronchitis.
" 22	101.1	103.6	—	
" 23	101.8	102.9	—	Got 6 grs. of sulphate of quinia three times a day.
" 24	100.4	101.7	—	
" 25	100.6	102.2	—	
" 26	100.4	102.7	120	
" 27	101.7	104.0	—	
" 28	102.2	103.6	—	Rather more diarrhœa.
" 29	102.7	102.6	—	
" 30	101.8	101.8	—	Regular motion.
Oct. 1	101.5	102.2	—	Takes the quinine in one dose, that is, gr. 18, in the evening.
" 2	99 5	101.7	—	
" 3	99.5	103.1	—	Quinine, gr. 20.
" 4	100.6	99.0	—	
" 5	101.7	104.0	120	Received intelligence of her mother's death.
" 6	102.2	104.0	—	
" 7	102.6	100.8	—	Quinine, gr. 20.
" 8	98.6	101.1	—	
" 9	101.7	103.8	—	
" 10	102.7	104.0	—	Quinine, gr. 10.
" 11	99.7	102.6	—	
" 12	101.1	102.9	—	
" 13	101.5	101.8	—	

" From this day the temperature fell gradually, and no more quinine was used. On the 2d of November she was discharged, convalescent.

" While then this patient got, on September 23d, six grains of sulphate of quinia three times a day, both the morning and evening temperature during the ensuing two days fell about a degree, but afterwards again rose, though she persevered with the same dose of quinine, until it attained its former height. On the 1st of October she takes her three quinine powders at once in the evening, and the following morning the temperature sinks lower than it had been at any time since her admission. This, however, is sufficiently evident, that the temperature on the evening of the 4th is equally low, although she has not taken quinine. Contingencies such as these should make one cautious in drawing too hasty conclusions. On the evening of October 5th we have a violent rise of temperature, the reason for which is assigned above; but the effect of quinine is not absent on this occasion either, just as three days later, when she got but ten grains only.

"Although these temperature reports demand much time and space, I cannot omit to notice, with some detail, another case, in which the effect of the quinine was so considerable and so constant that here we cannot assert, what we might in other instances be inclined to hold, that this effect is to be attributed either to the operation of chance or to inaccurate observation.

"Mrs. Janette Nilsdatter, aged thirty-one years, was admitted October 1st, 1867, from Sagene (Eriksen's brick manufactory). Eight days before she had had shivering and ordinary symptoms of fever, with constipation. On the abdomen was a scattered eruption, partly consisting of rose spots, partly of petechiæ.

Date.	Temperature.		Pulse.	Observations.
	Morning.	Evening.		
	°	°		
Oct. 1	—	103.5	84	
" 2	104.0	104.7	—	
" 3	103.6	104.9	84	Quinine, gr. 20, evening.
" 4	97.5	99.9	—	
" 5	100.9	104.7	—	
" 6	102.9	102.9	—	Quinine, gr. 20, 10 A. M.
" 7	102.2	104.7	68	Quinine, gr. 20, evening.
" 8	100.4	104.4	—	
" 9	102.9	104.5	—	Quinine, gr. 20, evening.
" 10	97.0	101.8	—	
" 11	101.7	101.1	—	
" 12	103.6	105.1	—	
" 13	104.0	104.9	—	
" 14	99.3	102.7	—	
" 15	101.5	103.8	—	
" 16	101.8	104.4	—	
" 17	99.7	104.0	—	
" 18	100.0	102.0	—	
" 19	100.4	101.8	86	

"I do not extend this table further, as the later notes possess no special interest. She was discharged convalescent on the 3d of November. It appears then, in this case, that while on the evening of the 3d of October, the temperature being 104°.9, the patient got twenty grains of quinine, the result was, that the next morning the temperature was nearly 7½° lower (27°.5), and nearly 5½° lower than it had been the preceding morning. On the 6th of October she got twenty grains of quinine, with the effect that the evening temperature was nearly a degree lower than on the preceding or the following evening. Now, this is to be observed, as well in the present as in other cases, that the antipyretic effect of the quinine is more marked when it is seconded by the normal morning remission.

"I may also call attention to the fact that so pronounced an antipyretic effect of quinine as that in the cases mentioned above, I have never since seen or found alluded to elsewhere, so that it may certainly be regarded as very exceptional. On the other hand, too, I have seen the quinine to have been altogether without effect; but this also is exceptional. In general, we may with safety venture to say that the effect is tolerably certain, especially when the remedy is given towards evening or in the course of the night. Leibermeister is said also to have found that the longer the disease has lasted, the more striking is the effect. He believes that prognostic significance may be attached to the effect of quinine on the temperature. In a case which threatens to be of great severity, the influence of quinine on the temperature is little or nothing, whereas it is considerable in a case which will have a favorable result. It appears to me that in this rests an acknowledgment that the disease is in reality not much influ-

enced by the therapeutic agent in question. Since it fails exactly in the cases where it is most required, and is efficacious only where its exhibition is not called for, the use of quinine is, on the whole, manifestly of but little value. Although we can here, by means of an accurate physical instrument, measure the efficacy of the medicine, and although this, in the present case, is not inconsiderable, we must yet admit that it exercises no specific influence on the progress of the disease. Of the typhus patients who, at the time to which this report refers, took quinine in the way mentioned above, one died. The immediate cause of death in this case was hemorrhage from the bowels. The patient had twice, in the course of the disease, taken an evening dose of 20 grains, and each time with perceptible influence on the temperature."

So far, Professor Stabell. In the same number of the *Norsk Magazin*, Professor Liebermeister's investigations on this subject are again alluded to in a report on the Treatment of Enteric Fever (*Om Behandlingen af Abdominaltyphus*). The use of quinine in heroic doses is thus spoken of:—

"Earlier experiences had imbued the author (*i. e.* Liebermeister) with the conviction that the perils of typhus might be to a great extent lessened by an antipyretic treatment. Besides cold water, quinine in large doses had pre-eminently maintained its antipyretic efficacy.

"Some observations seem to entitle us to hope that quinine, when given perseveringly and for a long time in repeated doses, might perhaps have a still better effect than when given in single large doses. Experiments were instituted on an extensive scale, but the results were altogether unsatisfactory. The considerable diminution of fever which, almost without exception, was seen in a short time after the administration of a large dose, was not found; not once was the result the same when some considerable quantity was given in repeated doses as when single large doses were exhibited. No doubt the fever curve seemed to run somewhat lower where the quantities given were not too small. But the strong remissions, which are of obvious advantage to the patients did not occur. It is also evident that the persistent use of quinine did not exercise any specific influence whatever in cutting short the disease. In consequence, the author, whenever he desired its antipyretic effect, employed full doses (20 or 30 grains, or less, according to circumstances) within as short time as possible—at the most, two hours, and repeated this dose, should the fever return after two days, but never before the lapse of thirty-six hours.

Art. 138.—*Carbolic Acid Preparation.*

By T. A. Redwin.

(*Chemist and Druggist*, December, 1869.)

Mr. T. A. Redwin, in a paper read before the British Pharmaceutical Conference, gives the following as advisable proportions in the use of carbolic acid:—

As a rule it is better to dissolve the crystallized carbolic acid (Calvert's) in the proportions of one part by weight of the acid to six of glycerine (carbolate of glycerine). In this state it can be diluted equally indefinitely.

In general, a *dose* of carbolic acid is 1 grain in an ounce of water.

As a *gargle*, 1 or 2 grains to an ounce of water.

As an *injection*, 1 grain to 4 ounces of water.

As a *lotion*, 15 grains to an ounce of water.

As an *ointment*, 30 grains to an ounce of benzoated lard.

As a *liniment*, 1 grain to 20 of olive oil.

As a *plaster*, 1 part of carbolic acid to 3 of shellac.

The crystallized carbolic acid to be used as a caustic.

The carbolate of glycerine, as above, should be used in 1 or 2 drop doses.

Antiseptic oil for abscesses, 1 part of acid to 4 of boiled linseed oil.

Antiseptic putty, 6 spoonfuls of the antiseptic oil mixed with common whiting.

Aqueous solution of carbolic acid is 1 part of acid to 40 of water (1 ounce of acid to a quart of hot water well agitated and filtered).

Sick-rooms, to disinfect: place a portion of the dissolved acid in a porcelain dish, and float it in a larger vessel of hot water.

Disinfecting purposes generally: 1 pound of *crystals* to 6 gallons of water. *Fluid*, 1 part to 80 of water. *Powder*, 1 ounce of crystals with 4 pounds of slaked lime.

For drains: take 1 pound of the fluid carbolic acid to 5 gallons of warm water.

Toothache is often cured with 1 drop of carbolate of glycerine; and diarrhœa arrested in half an hour with 2 drops.

In all cases of parasitic life it is advisable to commence with very dilute carbolate of glycerine.

ART. 139.—*The Physiological Action and Therapeutical Uses of the "Acidum Phosphoricum Dilutum."*

By J. B. ANDREWS, M.D.

(*American Journal of Insanity*, October, 1869.)

Dr. Judson B. Andrews, of the New York State Lunatic Asylum, gives the result of a large experience with the acid. After a brief discussion of the abnormal excretion of phosphates by the urine following mental exertion carried to the degree of fatigue, he speaks of the rational treatment to be adopted, viz:—

"To repair the waste which the nervous system has suffered, and again bring the secretions to a normal standard. To do this we have the means pointed out in the ingestion of food rich in nitrogenous elements, of substances capable of being converted into phosphoric acid, or of the acid itself. The former of these methods has always been resorted to by practitioners; the latter has attracted little notice.

"To demonstrate the physiological action of the remedy, pulse traces are presented taken by the sphygmograph, after the ingestion of the acid. The amount of acid taken varied from one to three drachms, and the traces were made at intervals of from fifteen minutes to one hour.

"Within the first interval there is an appreciable increase in the force of the pulsations, though there is little change in the number during the whole time of experimentation. The increase is most marked after the lapse of from one to two hours, and it is not till after several hours that the pulse returns to its normal condition. The first experiments I made upon myself, beginning with twenty drops, and continuing the use of the remedy in increased doses till the amount of four drachms was reached. The sensations experienced on taking from forty drops to three drachms were those of moderate alcoholic stimulation. There was slight pain through the frontal region, and a buoyancy and lightness of feeling rather agreeable. When a larger dose was taken, there was a feeling of drowsiness, an inclination to lie down, and an unwillingness to undertake mental labor. This continued for some hours. From these experiments, we may conclude that this remedy is a stimulant general in its character, but with a special tendency to the nervous system.[1]

"It also exercises a marked control over the vaso-motor system, as will be shown further on. We present some pulse-traces from patients who have been for some time continuously upon the use of the remedy. They are taken at random from a large number. In them the change in the tone of the circulation may be noted. Additional force is manifest in the heart's action in all cases where the traces were taken, and in others the same fact was evidenced by the general appearance. From our experience, we think it properly placed in the category of nerve-tonics."

---

[1] The following extract is from the *Dictionnaire des Sciences Medicales*: "The primary influence of phosphorus is exercised upon the nervous system, of which it increases the sensibility; from that it reacts upon the entire economy, and particularly on the circulatory system; the pulse is developed, heat augmented, the strength is increased."

After describing the dementia which follows outbreaks of acute mania, he remarks:—

"This is a period of nervous exhaustion, of reaction from the increased mental and physical activity which marked the previous state of the disease. At this time tone and vigor must be supplied to the prostrated system, and, in the accomplishment of this, phosphoric acid is of material service. Nature has made provision for the repair, in the generally unimpaired, and often greatly increased vigor of the digestive function, and it may be effectively assisted in this process of restoration by the employment of this acid, as a nerve nutriment. The traces marked number one of the pathological series are those of a case to which this description will apply. Since being placed on the acid the change in the character of the circulation is strikingly apparent, and the improvement in the appearance and mental condition of the patient very marked. The congestion of the extremities and lips has given place to a more natural color, and the countenance wears the expression of a greater degree of mental vigor and activity. From this point to a full recovery the steps are usually sure, and often rapid.

"Cases are sometimes under treatment at the asylum, and more frequently in private practice, especially from among literary, professional, or business men, which are characterized by loss of mental power from excessive brain activity.

"The patient is languid, unable to perform mental labor with the usual facility, is nervous, at times fearful, timid, and agitated; the memory is weakened, and permanent impairment seriously threatened. Examination reveals no organic lesion, but the symptoms are such as justly occasion alarm. Such cases have been improperly called, by some recent writers, cases of cerebral paresis, a term too strong in its import, but expressive of the great danger which impends. For the recovery of these cases, relaxation from business and labor, and the use of the phosphoric acid, combined with some suitable tonic, generally suffices.

"In cases where mental effort has been protracted till a sense of weariness renders its continuance difficult, a dose of the acid, from its stimulant effect, relieves fatigue, and seems to invigorate the mental powers, and prepare the mind for renewed exertion.[1] In the night-sweats attending consumption, and other exhausting diseases, this acid is employed with benefit, and has some advantages over the aromatic sulphuric acid, so generally used. It is much more agreeable to the taste, more likely to be tolerated, and does not constipate the bowels. The antiscorbutic power of this acid is well settled.

"Observation here confirms the views of Neligan and others, that this substance exerts no direct influence on the generative function. It has thus been employed on theoretic grounds; but any favorable influence it has exerted has probably been owing to its general tonic effect. We have used it extensively, and in cases where this function was abnormally excited; and in no instance has its administration been suspended from this cause, or has any inconvenience resulted from its use.

"In the administration of this remedy, one general principle should be kept in mind—viz., not to exhibit it in cases of congestion of the brain, or in those in which there is an inflammatory action, either in the nerve-substance or the meninges, as its stimulant effect might prove an aggravation to existing disease. In no case in which it has been given has it disturbed digestion or proved an irritant to the stomach even when its administration has been prolonged."

---

[1] "A professor in one of our medical schools, in a letter to Dr. Gray, recently remarked: 'Wonderful thing, that phosphoric acid, and well named by me psychological lemonade. My lunch at noon (we dine at six) consists of rich cheese, bread, and a glass of phosphoric acid lemonade; and on that I have worked eight and nine hours a day, with my pen, for the past seven weeks, in this hot weather, without headache or any depression. I never take over fifteen drops, and only once a day, and when fatigued. It is wonderful how quick it climbs into the anterior lobes, scatters capillary congestion, and satisfies the hungry tissues with its own pabulum.'"

Art. 140.—*Mineral Waters as Therapeutic Agents.*

By Hanbury Smith, M.D.

(*The Medical Record*, Nov. 1, 1869.)

At a meeting of the New York Academy of Medicine, held Sept. 16th, 1869, Dr. Hanbury Smith read a paper on mineral waters as therapeutic agents. After defining mineral waters as "more or less dilute aqueous solutions, flowing from natural springs, or reached by excavation or boring, and possessed of undeniable medicinal powers," he directed attention to the important part played by the temperature and volume of the solvent water, not forgetting the therapeutic value of the only important gaseous impregnations—carbonic acid and sulphuretted hydrogen. From want of time to treat of them, the so-called alum, bitter, and ferruginous waters were passed over, and might perhaps with propriety be regarded as convenient and varied forms of astringents, laxatives, and tonics, forming a transition series between ordinary medicines and the mineral waters proper. The minerals present in these were next described, and it was shown that all the important ones are exactly those "either forming integral parts of our bodies, or whose presence is absolutely necessary to the accomplishment of the vital processes," certainly a most remarkable coincidence.

Dr. Smith then considered the *chlor-sodic* or common-salt waters, always of complex character, each containing from 10 to 15 different ingredients. All these waters are tonic and stimulant, and in larger doses aperient. "They give activity to the cutaneous, intestinal, and urinary functions, developing appetite, and demanding a substantial diet during their use. Most remarkably do they stimulate the abdominal circulation, provoking hæmorrhoidal and menstrual discharges—sometimes to excess. They are also powerfully alterative."

The *sulph-sodic* or Glauber-salt waters are much less common than the chlor-sodic; and even in the strongest the proportion of the naming ingredient is small, compared to that of the common salt in the other. Glauber-salt, formerly much used as a purgative, extracts a much larger amount of water from the blood than the chloride does, and is mainly discharged with the feces, but little in the urine. It is commonly accompanied by carbonate of soda, with much free carbonic acid, iron, chloride of sodium, &c., the two latter counteracting the tendency to debilitate by depletion.

During the employment of these waters, the urine is increased in quantity and rendered alkaline, the appetite improves, digestion is promoted, and the blood depurated and renewed with healthy materials. The weaker waters, and an allied class, where sulphate of lime replaces the sodic salt, are sedative, alterative, and anti-spasmodic.

The *alkaline sodic waters*, rich in carbonate of soda, are well represented by the so popular Vichy. In addition to the soda are found small proportions of the carbonate of potassa, magnesia, and lime, sulphate and phosphate of soda, and chloride of sodium.

"Rendering the blood more alkaline, doubtless more fluid, and thereby enabling it to circulate with greater ease, the two plastic elements most concerned in chronic engorgements and tumefactions—albumen and fibrin—we may conceive to feel the liquefying influence."

Alkaline chlor-sodic waters, like those of Ems, more feebly mineralized than Vichy and water similar to that, are particularly adapted to the treatment of disorders depending on catarrhal antecedents, neuralgic and spasmodic cases, and such as, requiring alkaline treatment, are accompanied with anæmia.

Sulphur waters are divided into sodic and calcic. The former, quite frequently devoid of the smell of free sulphuretted hydrogen at the source, are more powerfully remedial than the mal-odorous calcic waters, quite contrary to popular notions on the subject. Cutaneous, rheumatic neuralgia, and catarrhal disorders are those most commonly treated by sulphur waters, though these require more care in their employment than any others, being dangerously stimulant.

Dr. Smith remarked that it is not to be forgotten that however arranged, all classes of mineral waters interlace in every possible way, the one passing into the other by insensible degrees.

The analysis of any water does not tell us, with any approach to accuracy, what is likely to be its specific action. Reliable empiric observation is the main source of all our information on the subject.

While active hydro-mineral treatment is contra-indicated in acute disorders, heart affections, cancer, and malignant organic diseases, &c., it may yet be employed in "a carefully graduated and discriminating manner to ameliorate symptoms supervening upon the principal disease, or even more or less intimately connected with it."

The constitutional tendency to a given disease, and the diathesis, where the disease is present, but in abeyance, are the great fields for the internal use of mineral waters. As might be expected, however, of such alterative medicines, the effects are sometimes developed with extreme slowness, sometimes exacerbating, or even causing the chronic disease to put on an acute form. If the disease is recurrent, the rule is to commence treatment at the middle period of the best health.

After a full elucidation of the above, and other practical points, the treatment of chronic, and especially the diathesic diseases, received as much attention as the occasion would admit of.

In answer to a question concerning the properties of the Missisquoi water, Dr. Smith replied that the only peculiarity he had been able to discover, was its remarkable purity, and that such had been the experience of other chemists, all having failed to detect in this water any earthy or mineral salts. He then expressed a wish that any of the gentlemen present would report cases of diseases that have, under their observation, been relieved or cured by the use of mineral waters.

ART. 141.—*On the Internal Use of Carbolic Acid for Syphilis.*

By Dr. M. KÖHN.

(*Archiv für Dermatologie und Syphilis*, 1–2, 1869; *Schmidt's Jahrbücher*, No. 10, 1869.)

Dr. Köhn gives the results of trials with carbolic acid made in Hebra's wards within one year. The subjects were ten males and fourteen females, the cases selected being those in whom there were presented, either with or without coexisting idiopathic (local) sclerosis, syphilitic maculæ, small or large papulæ, or small pustules upon the skin. Ulcerative forms were excluded. The carbolic acid was generally used in the form of a pill with liquorice as an extract, or powdered. Each pill contained 0.06 grammes of the carbolic acid. At first, from six to nine, and later, from twelve to twenty pills were administered daily. In some few cases as many as sixty pills were administered daily. The acid was likewise administered in solution, but in small quantities; when used in this form, its taste and smell were very offensive to the patients.

From these trials it resulted that the above-mentioned exanthems in the course of from four to seven weeks improved or totally disappeared under the use of carbolic acid. The same report was given as to the treatment of syphilides which had lasted for several months, and of the pustular forms of eruption. Still the good results were not so well marked as to favor the recommendation of carbolic acid for the treatment of syphilis. This assertion is based upon the following facts: (1) Mercurial medicines and the inunction method act much more rapidly in syphilis; (2) Carbolic acid proves itself to be quite inert against syphilitic osseous affections, pains in the bones and articulations, and nocturnal headache, symptoms which can be removed almost with certainty by mercurials and iodine.

Art. 142.—*On the Employment of Carbolic Acid in Surgery.*

By Dr. Joseph Englisch.

(*Oësterreich Zeitschrift für praktische Heilkunde*, xv. 1869; *Schmidt's Jahrbucher*, No. 12, 1869.)

For the purpose of forming a judgment upon the surgical application of carbolic acid, Dr. Englisch carried this into practice during one year and in more than four hundred cases. The application was made strictly according to Lister's directions. Dr. Englisch remarks, that in opening abscesses the incision should never be made too small; but that, according to the size of the abscess, it should vary from one to two inches, and never be less than one inch in extent; the discharge of pus is thus materially facilitated, and less pressure is required.

The author has thought it advisable to give an elaborate statement of his results, as he thinks that the method fulfils so many advantages that its diffusion deserves to be promoted as much as possible.

In discussing, in the first place, the application of Lister's method to the treatment of wounds, the author states that it is attended with many advantages in cases of incised wounds; the edges of the incision do not swell, and seem, in consequence of the absence of inflammatory reaction, to be less further apart; the secretion of pus also is as much lessened by this dressing. When a layer of healthy granulations has been formed, the carbolic acid application may be replaced by some other more suitable dressing, since in cases of this kind cicatrization might be retarded by the irritating action of the acid. The author substitutes either a solution of caustic potash or a lotion containing camphor and mucilage. The scars of incised wounds treated in this manner are very narrow and not closely adherent to the tissues beneath. A case is given in illustration of a wound of the back of the hand with division of the extensor tendon of the ring finger; cicatrization resulted after ten days, and the injured tendon was subsequently observed to play freely.

Lister's dressing also proved very beneficial in cases of contused wounds; with extensive hemorrhage, the author states, the surgeon need not after the above-mentioned results hesitate to extend the incision. The infiltration of the surrounding tissues in the author's cases was always very slight, and the resulting cicatrix small and movable. A case is reported of severe contused wound in consequence of the patient having been run over.

The most striking advantages from the use of this dressing were shown in cases of compound fracture, although the injured extremity was not saved in all. With a small skin wound the fracture heals as if it had been a simple one. When the position of the fragments is such that considerable irritation of the soft parts is produced, the progress of the case is much slower, although suppuration is less severe, exfoliation of portions of bone of much less seldom occurrence, and consequently, the loss of the patient's strength not so great as in cases where other methods of dressing were practised. The following are condensed reports of two cases given by the author:—

1. A youth of fifteen years of age, received in a fall an oblique fracture of the right tibia; corresponding to the anterior edge of the broken bone was a straight wound three inches in length, from the lower extremity of which projected a sharp piece of bone. Before the limb could be put into a good position about three-quarters of an inch of the projecting bone had to be removed. The carbolic acid dressing was then applied, and although on the following days severe febrile disturbance took place, there was but very little inflammatory reaction about the seat of injury. Some pericystitis afterwards came on. On the fourteenth day the bone was covered by granulations, and at the end of the same week the wound was quite healed.

2. A driver was run over by his own heavily laden wagon and received a severe contusion of the left leg which when applied to the side of the right limb was found to be shortened to the extent of two inches. On the outer side of

the injured limb was a widely gaping wound about five inches in length, which commenced near the outer side of the ankle. There was a double fracture of the tibia and fibula, and the middle fragment of the tibia was placed obliquely, the point of the upper fragment being denuded of periosteum. The limb was then placed in position and Lister's dressing applied; in the course of a few days a gangrenous patch of the size of a thaler-piece was formed to the integument, in consequence of the pressure of the extremity of the upper fragments of the tibia. In spite of this, however, although it was slow, cure resulted without exfoliation of bone. The process of healing lasted for five months; the shortening of the limb amounted to one and a quarter inch. In this case amputation was especially indicated.

Good results were frequently obtained in cases of almost complete separation of the fingers. It may be naturally supposed that all the extremities thus injured could not be preserved; where the nutrition of the limb has been considerably impaired, it is self-evident that the carbolic acid application will not preserve the injured part.

With acute and chronic inflammations in individuals of a healthy constitution carbolic acid, as a dressing, has great advantages, whilst with inflammations associated with dyscrasiæ this agent is capable of doing harm.

The employment of carbolic acid was very beneficial in the local treatment of inflammation of the connective tissue of the axilla, in inflammation of the bursæ mucosæ of the olecranon and patella, with dangerous subaponeurotic inflammation of the connective tissue in the palm of the hand, and in intermuscular phlegmon of the calf; cases in which amputation has hitherto been thought necessary, and which often resulted in pyæmia, or in a partial recovery with the preservation of a useless and stiff limb. The impairment of function is diminished by the carbolic acid treatment, in consequence of the slight cicatrization which is produced by this method.

Lister's plan of dressing also proved very efficacious in cases of lesion of the subperitoneal connective tissue. Three cases, two in women and one in a man, were observed by Dr. Englisch, in which suppuration of the cellular tissue had been set up in the iliac fossa, in consequence of lymphangeoitis extending from the thigh. One case, after an opening had been made by caustic potash, was treated locally by fomentations, the other two by carbolic acid dressings. In the latter cases a remarkable diminution of the discharge of pus and rapid healing followed the method of treatment.

In suppuration in the perineum and about the anus the application of carbolic acid, although very difficult, is still strikingly beneficial. No good result, however, followed its employment in a case of urinary infiltration resulting from ulceration and rupture of the urethra.

With glandular inflammations, and also inflammation of the substance of the glands generally dependent upon tuberculosis and scrofulosis, the results from the employment of carbolic acid were not good. In combinations of inflammation of the gland with that of the surrounding cellular tissue the results were mixed; with inflammation of the cellular tissue alone they were favorable.

In cases of fistulous passages under the skin not in connection with diseased bone, injections of carbolic acid and the subsequent application of the acid paste were rapidly followed by recovery.

The results of the treatment proved to be more favorable in periostitis than in disease of the bone substance and the medulla. Dr. Englisch derived great benefit from the application of carbolic acid in cases of traumatic and rheumatic periostitis of the tibia and fibula. In one case the whole of the fibula was inclosed in a large abscess, and yet a cure was rapidly effected. Two successful cases are also reported of metastatic periostitis in puerperal women.

The carbolic acid dressings were of uncertain utility in cases of the so-called cold abscess dependent upon dyscratic disease of bone. Dr. Englisch acknowledges, however, that he would never hesitate to open abscesses which have originated from osseous caries, and which generally give no good result, since he has frequently had an opportunity of observing that after the abscess has been opened the suppuration has never attained to such a height under the application of carbolic acid, as in other plans of treatment.

With diseases of the joints the results varied very much. With small joints, as those of the fingers and toes, necrosis was repeatedly followed, under the influence of carbolic acid, by ankylosis, or healing with perfect movement often after a long continuance of the disease.

With large joints the results were less certain. Dr. Englisch has observed some striking cases of cure, but these referred only to pure traumatic synovitis. Where there is caries or necrosis in the joint, the result of the treatment consists only in a diminution of the secretion and of the fever.

The results of the carbolic treatment in operation wounds were the more favorable the less the bones were involved. Out of seven cases of herniotomy treated by this method, four were healed in from four to five weeks; two cases terminated unfavorably, as peritonitis had extended too far before the operation. The seventh case was still under treatment, but no inflammatory symptoms had been manifested. Lister's treatment was very efficacious in the radical cure of hydrocele by incision, and also after the extirpation of new growths; in these cases, however, it is to be remarked that the carbolic acid should be changed for some other dressing as soon as prominent and luxuriant granulations have been produced.

In operation wounds, in which small sized bones were involved, the results of the dressing were very good.

Dr. Englisch saw only one case of pyæmia under the carbolic acid treatment. Erysipelas was also of rare occurrence, which, however, might have been partially due to the careful removal of pus.

The chief disadvantage of the carbolic acid is its rapid absorption and secretion by the kidneys. These results are not of general occurrence, as in some cases of large wounds treated by carbolic acid, no discoloration of the urine has been observed. It is evident, however, that the passage of carbolic acid through the kidneys must cause great irritation, since in connection with dark-colored urine albumen is often found in this secretion.

In Dr. Englisch's opinion carbolic acid as a dressing is to be considered as an important acquisition to surgery, the advantages of which consist in the short period necessary for cure, in the reduction of fever, and the amount of secretion, in the slight reaction in the surrounding parts, and in the short convalescence resulting from the small loss of the circulating fluids.

PART II.—SURGERY.

SECT. I.—GENERAL QUESTIONS IN SURGERY.

ART. 143.—*On the Differences between Inflammation and Pyretic Diseases.*

By Professor BOUILLAUD.

(*The Lancet*, January 28.)

Professor Bouillaud thus sums up his views on the differences between inflammatory and pyretic diseases:—

1. The excess of fibrin in the blood, in the purely inflammatory condition or process, which for a long time was named "inflammatory fever," proceeds from an *abnormal secretion* or *neoplasm* of the internal membrane of the blood apparatus. This neoplasm is similar to the one produced on the surface of an inflamed serous membrane, to the degree or according to the manner designated by Hunter an *adhesive inflammation*.

2. It is a portion of this neoplasm, or of this pseudo-membranous secretion, which deposits on the surface of the coagulum of blood obtained in the cases above stated—neomembrane, to which the name of inflammatory clot has been given, and the chief constituent principle of which is fibrin.

3. Phlegmasia of the internal membrane of the circulatory apparatus, more or less generalized, and belonging to the so-called *adhesive* form, is one of the fundamental conditions of that production of fibrin in excess, and of the pseudo-membrane of the blood in so-called *inflammatory* fever.

ART. 144.—*On Carbuncular Inflammation.*

By THOMAS SMITH, F.R.C.S., Assistant-Surgeon to St. Bartholomew's, Hospital.

(*The Lancet*, January 22.)

At a meeting of the Clinical Society of London, held Jan. 14th, Mr. Thomas Smith communicated the particulars of three cases of carbuncular inflammation which occurred on the face. He remarked that this disease bore much the same relationship to common carbuncle as scarlatina maligna does to scarlatina simplex. He referred to the different names that the disease had received, and noticed Mr. Ludlow's cases, and stated that, though he had seen the cases related by Mr. Ludlow and others occurring since, he was unable to state any signs by which the malignant cases might be recognized in an early stage of the disease. The ordinary progress of facial carbuncle was described, and also that of malignant pustule; the characteristic signs of the latter were stated to be its origin from a local virus, the absence of severe pain or increased heat, the dryness of the slough, the absence of pus in all stages of the malady, and the fact that the death of the tissues proceeded from the skin towards the deeper parts. In discussing the cause of the fatality of facial carbuncle, attention was drawn to the susceptibility of this locality to erysipelas and œdema, to the peculiarities of the venous circulation, and to the sudden deaths that had occurred from the injection of nævi on the face with tincture of iron. As regards treatment, the author confessed that we possess no means of arresting the fatal effects of blood-poisoning when it has once taken place, and that treatment could only be directed to prevent the occurrence of pyæmia, either by the destruction of the disease in its earliest stage, by caustics or by the administration of internal

medicines. The former plan he rejected as unjustifiable from its severity, in our ignorance of the characteristics of malignant carbuncle in an early stage. He spoke of quinine in large doses as having proved useful in the hands of Mr. Paget in one case, and he suggested that in all cases of facial carbuncles sulphite of magnesia should be given from the very first.

Mr. Gant made some observations on cancer in this region as distinguished from malignant pustule, remarking that the latter was the direct result of contagion, and should not be confounded with carbuncular inflammation.

Mr. Heath advocated incisions in cases similar to those related by Mr. Smith, and cited successful instances of this mode of treatment.

Dr. Greenhow said Mr. Smith's paper was important, because carbuncular inflammations are often confounded with malignant pustule, that their etiology is different, and that the latter disease is much more common on the Continent than in England.

Mr. John Croft gathered that, in the paper read, a distinction was made between two varieties of the disease. He had never seen a fatal case of facial carbuncle, and regretted that in those related by Mr. Smith no post-mortem examination was made. There appeared to be no reason for making incisions, as no pus existed; and, according to his own experience, sulphite of soda was quite inert.

Mr. Hulke asked if carbolic acid had been used topically for carbuncle, and believed it to be a most useful application.

The President, remarking upon the noteworthy features of these cases, said that, according to his own observations, the disease was comparatively modern; that the first case seen at St. Bartholomew's Hospital was admitted about twenty years ago, and was then called acute impetigo of the lower lip. To his surprise, the man died, and six months later another case was admitted, which also ended fatally. He had attended from fifteen to eighteen cases, and all but one had died. The last case described by Mr. Smith was neither malignant pustule nor carbuncle; and he was unable to say why some were rapidly fatal, and others recovered. Inflammation of the lymphatic glands was a marked and constant feature, and it should be an object to discover why this fatal form of disease affects exclusively the face and lips. Young persons are specially obnoxious to this disease, more than half of the cases cited above having occurred in subjects of from sixteen to twenty-two years of age. According to experiences gleaned, incisions produced no good effect, and all died from acute pyæmia.

Mr. Nunn remarked, that the pyæmic condition sometimes existed before the carbuncular state was fairly established.

Dr. C. T. Williams inquired if in these cases any sugar was found in the urine.

Mr. Smith closed the discussion by saying that the disease was not rare, as Mr. Croft suggested; that incisions do not succeed; that post-mortem examinations are gloomily monotonous, and throw no new light on the subject; that the urine in the cases recorded was not albuminous, but was not examined for sugar; and that, according to his experience, it is impossible in the early stages of the disease, to pronounce even an approximatively accurate prognosis.

ART. 145.—*Case of Pyæmia, with Singular Eruptive Symptoms.*

Under the care of Dr. ANSTIE.

(*The Lancet*, January 22.)

There are two points of great interest about the following case. The occurrence of pyæmia without an assignable external cause is always an interesting thing; and in this instance, neither in life nor at the post-mortem examination could any such cause be detected. From the very plain evidences of severe blood-poisoning which the case presents, one is constrained to think of possible contamination of the system by foulness of the atmosphere in which the girl had been living; and in respect to this it is worthy of note that she was residing in some servants' offices at a club which have been unfavorably distinguished

by the number of cases of disease more or less dependent upon miasmatic influences which have occurred for some years past among their inmates. Another point of interest is the peculiar eruption; it presented at one stage, no small superficial resemblance to smallpox, but this rapidly disappeared, and the bullæ which were developed along with the pustules in many cases contained reddish serum, and were of considerable size. Dr. Anstie believes such a complication of pyæmic poisoning to be very rare. Finally, this case repeats the warning given by so many others of the insidious manner in which pyæmia develops itself, and the especial frequency with which its early symptoms may be mistaken for those of rheumatism.

Emma W——, aged twenty, admitted into the Westminster Hospital Sept. 10th; scullery-maid at a club. She complained on admission of pain in her joints, and said she had had "rheumatism" for several days. Temperature 101°. Left eyelid a good deal ecchymosed. She was treated at first for rheumatism, being put on beef-tea, milk, &c., and ordered ten grains acetate of potash and thirty grains of bicarbonate of potash every four hours, and ten grains of Dover's powder at night. She was a large, stout, healthy-looking girl. Good sleep was obtained that night, and in the morning no visible change could be observed.

Sept. 12.—To-day she is not quite so well. Temperature 102°. On the right side of the face there are a couple of red spots.

13th.—All over the face and trunk are a number of bullæ and pustules, in various stages. The patient slept badly last night, and had one attack of rigors. Temperature 104°; sickly odor about her. Tongue foul, and coated white. Tenderness of joints; left knee much swollen. On the dorsum of the right hand there is an inflammatory blush. There is a similar one over the back of the left ankle. Motions passed involuntarily; they are extremely yellow, and very offensive. At this stage Dr. Anstie ordered eight ounces of sherry per diem, and two-grain doses of quinine every four hours; but no good effect was produced, and the patient passed into high delirium. This continued all night. There was much diarrhœa, and a very offensive smell about the patient.

On the following morning, the 14th, the pustules and bullæ were still more numerous, the tongue was dry and brown, and the lips and teeth coated with sordes. Death occurred at 5 P.M.

Post-mortem examination.—Heart normal; both lungs studded at the base with patches of lobular pneumonia, in various stages. These were about the size of a sixpence. Most of them were in the first or second stage, but one or two were soft, broken down, and whitish-gray. Stomach healthy; kidneys congested and enlarged, each weighing seven ounces. Spleen small and congested. The left knee-joint contained a large quantity of thin, yellow pus; and an incision made into the inflamed dorsum of the right hand also gave exit to a quantity of pus.

Art. 146.—*On Recurrent Hemorrhage.*

By James Paget, F.R.S., D.C.L.

(*Medical Press and Circular*, February 23.)

Mr. Paget, after mentioning that recurrent hemorrhage is essentially due to reaction, and comes on more rapidly in strong persons after amputation than in weak, deprecates the plan of giving much stimulation to patients after operation, as likely to be followed by bleeding. In cases of morbid or cancerous growths recurrent hemorrhage is peculiarly apt to occur, or after some inflammation or acute pain in the part. In such cases it is advisable after amputation to sling the limb, and leave the vessels exposed to the air. If not sufficient, ice should be applied, and in desperate cases compression of the main artery by tourniquet, or opening up of the flaps and tying the vessels again. The main vessel should not be bled until it is ascertained whether, if that were done, bleeding would be likely to cease or not.

ART. 147.—*On the Employment of Digital Compression and Flexion in the Treatment of Aneurisms.*

By Dr. FISCHER.

(*Vierteljahrschrift für praktische Heilkunde*, Bande cii. ciii. civ. 1869; *Archives Générales de Médecine*, Janvier, 1870.)

Digital Compression.—According to Fischer, direct compression was employed for the purpose of arresting hemorrhage by Galen, Guy de Chauliac, Paré, and others. Indirect compression also was recommended by Wiseman, Paré, Louis, and other authors. Morel, in 1682, was the first to mention direct compression upon an aneurismal sac. Indirect compression, as employed at the present day, was especially studied at the end of the eighteenth century by French surgeons. This method afterwards fell for some time into neglect, although one may find some few observations scattered here and there in English and American publications.

In 1856, Giovanni Flinich, a pupil of Vanzetti, published in his inaugural thesis the principles on which this method rests, and gave it the preference over all others generally employed. Vanzetti had the honor of introducing indirect compression into daily practice, and of laying down its indications and counter-indications.

The statistics of Dr. Fischer are based upon 188 cases, 72 of which occurred in France. The authorities who discussed this subject had collected the following numbers of cases:—

1856. Broca	13
1857. Verneuil	17
1858. Petiteau	26
1859. Abbadie	34
1860. Gaultron de la Bâte	40
1865. Barlemont	42
1868. Fischer	188

The aneurisms treated in this manner were seated upon the following arteries: Iliac, 3 cases; inguinal, 7 cases; femoral, 8 cases; popliteal, 90 cases; tibio-peroneal trunk, 1 case; anterior tibial, 1 case; posterior tibial, 1 case; external plantar, 1 case; subclavian, 1 case; axillary, 4 cases; brachial 32 cases; ulnar 1 case; radial, 7 cases; superficial palmar arch, 5 cases; carotid, 4 cases; temporal, 2 cases; ophthalmic, 6 cases; supra-orbital, 1 case; inferior coronary, 1 case.

These numbers comprise 124 spontaneous and 64 traumatic aneurisms; 13 were diffuse and 16 varicose.

The duration of the aneurism was noted in 59 cases, and in 23 instances the aneurisms had existed from one to eight weeks.

The ages of the patients in one-third of the cases were between thirty and forty years; in one-fourth between forty and fifty years.

Out of the 188 cases collected by Fischer there were 121 recoveries; 104 by digital compression alone, and 17 with compression aided by other plans of treatment. From the 67 instances of failure are to be removed 33 cases which had resisted instrumental compression, and which ought to have been treated by compression. In short, there remain 138 cases with 104 cures by digital compression alone, which makes 75.3 cases of success to 100 patients. With these 104 cases of cure, other methods of treatment—chiefly instrumental compression—had been employed without success. In the cases where digital compression had been employed as the sole method of treatment from the commencement, cure was perfected in a space of time which varied from six to nine hours.

The chief causes of failure were: a too feeble plasticity of the blood, diffusion of the tumor, pain at the seat of the aneurism, or at the seat of compression, the impossibility of completely suppressing the pulsations at the level of the

compressed spot, complications (rupture, inflammation, phlegmon of the sac), fatigue of assistants, &c.

Instrumental compression followed by digital compression, failed in 19 instances.

The fatal cases were 19 in number; one patient alone succumbed to the employment of digital compression to the exclusion of other means. This was a man, seventy-one years of age, suffering from palpitations and affected with a popliteal aneurism, the rupture of which was feared. At the end of twenty-four hours of digital compression, the tumor became solid; then there was limited gangrene, from which the patient died at the end of the second month.

In 3 cases death followed the combined employment of digital and instrumental compression; in 10 cases the patients succumbed after consecutive deligation, in 3 to amputation, and in 2 to opening of the sac.

This method, however, may be attended by inconvenient disturbances. One has sometimes observed localized paralysis, stiffness of joints, and, when the patients have been about too soon, relapses.

The principal means used for aiding digital compression were: morphia, digitalis, veratrum, barium, perchloride of iron, bleeding, diet, chloroform, &c.

Digital compression has the following advantages over instrumental compression and deligation: it is more simple and can be more readily applied; it is a surer and more precise method, and occasions less pain than others. Moreover, digital compression supplies a greater number of cures and fewer relapses. Employed alone it has never caused death.

If it be compared with instrumental compression it will be seen that a cure is produced in three days, whilst with the latter plan of treatment an average of fourteen days is generally required to produce a successful result. The proportion of cures is 75.3 in 100 cases with digital compression, and 70.3 in 100 with instrumental compression. The former method offers great advantages when the surgeon is obliged to have recourse to the ligature; the proportion of success is as 4 to 5.

In conclusion, this method ought to be preferred to all others, except flexion where it can be employed.

Digital compression has also been employed in several instances with succes for the treatment of hemorrhages, neuralgia, inflammation, malignant pustule, and elephantiasis.

Flexion.—The statistics of Dr. Fischer comprise 57 cases of aneurisms, 6 of which were traumatic and 1 arterio-venous. Of these cases 7 were treated at the same time by digital compression. 42 of these cases occurred in England, 7 in America, 4 in Germany, 3 in France, 1 in Switzerland. The tumor was seated upon the external iliac artery in 2 cases, upon the femoral in 1, upon the popliteal in 48, upon the brachial in 3, upon the radial in 2, and upon the palmar arch in 1. One-half of these cases occurred with patients between thirty and forty years of age.

Out of 57 aneurisms there were 28 cures—20 by flexion alone (4 of which had resisted instrumental compression), 8 with the aid of other methods. It failed in 29 instances. After withdrawing cases the failure of which cannot be laid to the account of flexion, there remain 37 aneurisms, 18 of which were cured—49 per cent.

In the most favorable cases flexion was employed for six and eight hours, and in other cases during four, five, six, ten, fourteen, eighteen, twenty-five, thirty-eight days, and one, two, or three months.

Forcible flexion is more agreeable both for patient and surgeon; it requires no complicated apparatus, and has never caused death.

Art. 148.—*On Torsion.*

By Cooper Forster, F.R.C.S., Assistant-Surgeon to Guy's Hospital.

(*The Lancet*, December 25, 1869.)

At a meeting of the Clinical Society of London, held Friday, December 10th, Mr. Cooper Forster read a paper *On Torsion*, and said that, having been selected by the Council of the Society as one of a Committee to report upon the relative advantages of this procedure and acupressure, and no report having been made in consequence of the death of one of the Committee, he felt it right to offer the Society his individual opinion upon the question. Having made some remarks upon the advantages of acupressure, and stated that, though still practised in Aberdeen by Keith and Pirrie, it was but little used in London, the speaker remarked that he had lost two cases from bleeding when the pins were removed, and that these accidents occurred after considerable personal experience in the practice. He considered acupressure valuable, but claimed for torsion precedence over all other modes of arresting hemorrhage, because it possessed the great advantage of not leaving any extraneous body in the wound. In proof of its efficacy he read several cases of amputation, as having occurred under his own care, in which torsion alone was employed for arresting hemorrhage. In addition to these amputations, Mr. Forster mentioned that he had excised the elbow-joint once, the knee three times, and the hip four times, during the last few months, besides performing other operations (about forty in number), in all of which torsion of arteries was exclusively employed. He therefore considered that a fair trial had been given to the plan, and that hence he might speak with some confidence as to the results. He confessed to reading with surprise, in Mr. Nunneley's able address to the British Medical Association, remarks to the effect that "he (Mr. Nunneley) could not twist a large artery and rest comfortably in bed, lest the elastic artery should untwist itself, and the patient bleed until he slept to wake no more." Mr. Forster was convinced that, had Mr. Nunneley perused carefully an account of the manner in which vessels were closed by torsion, the notion of an artery untwisting itself would seem to be an impossibility. Drawings were shown by the speaker representing the two femoral arteries of a double amputation hardened in spirit, and divided sectionally by Mr. Howse; and the fact was particularly emphasized that the twisted part showed no signs of death, though the patient from whom the preparation was taken did not die until thirty-six hours subsequent to the operation. Mr. Forster assured the Society that in no single case recorded, or at any time under his care, had secondary hemorrhage occurred; and the conclusion at which he had arrived was, that the greater security of torsion arose from the reduplication of the middle and internal coats, thus affording a mechanical impediment to hemorrhage, which impediment increased day by day. But in acupressure, as he had shown in the 14th volume of *Guy's Hospital Reports*, the clot which formed above the pin was the only safeguard against hemorrhage. As the removal of the pin a day or two subsequent to the operation was necessary, it must always be a matter of some uncertainty as to whether the clot was sufficiently adherent to afford the necessary security against bleeding. In the practice of torsion a vessel is made secure at the time of twisting; that is, bleeding is arrested with certainty, and there is no chance of its recurrence. But in cases where acupressure or the ligature is employed, there must always be some anxiety on the part of the surgeon as to the removal of the pin in the one case, of the separation of the ligature in the other. Mr. Forster further stated that since February, 1867, he had never used a ligature to restrain bleeding from an artery.

A very excellent preparation of the arteries above referred to was handed round for examination, as also the forceps used by Mr. Forster.

In reply to a question from the President, Mr. Forster said that it was his practice to seize from one-eighth to a quarter of an inch of the artery, and in the case of large vessels to twist it four or five times. Small arteries were

usually more difficult to deal with than large, because the surrounding tissues were sometimes included in the grasp of the forceps.

A query from Mr. Croft educed the opinion that it was of little consequence whether the vessels were cut obliquely or at right angles.

Mr. Bryant corroborated the experience of Mr. Forster in every particular; he had not used the ligature for two years. Mr. Poland had applied torsion to six femoral, two brachial, and a great many smaller arteries, with entire success. The speaker disagreed with Mr. Humphry as to the mode of twisting, and believes that the external coat should not be twisted off, because it is required for the support of the middle and internal coats. The necessary number of twists must be judged of by the looseness of the external coat, and a jet of blood should be allowed to enter the artery at once, to prove the success of the procedure.

Mr. Durham agreed with the last speaker; had practised torsion in the case of four femoral, two brachial, and many smaller arteries, and thought that a pair of forceps with very broad ends were more effective than those commonly used by Mr. Forster.

A visitor related three successful cases in which he had practised torsion, had divided the vessels transversely, and twisted off their ends.

Mr. Maunder asked if union by first intention ever took place, and remarked that this mode of securing vessels is especially commented on in South's *Chelius*, and also by Galen.

Mr. Gascoyen had applied torsion to small vessels, but thinks the ligature a more satisfactory plan. He would put these queries: In what cases does the ligature fail? Is the proportion of recoveries greater with the torsion than with ligature? Is not the long exposure of the stump in the former practice objectionable?

Mr. C. Heath inquired if torsion was equally useful whether practised in combination with Lister's carbolic acid dressing or not. He considered the latter entirely neutral as to its results, and that it might therefore be dispensed with.

Mr. Moore had not practised torsion, but was persuaded that acupressure was a preferable proceeding. He gave instances of the failure of torsion in the case of atheromatous arteries, and opined that, when the external coat became cretaceous, and therefore rotten, the practice was inadmissible, as also when the vessels were deeply imbedded in loose tissue.

Mr. Croft admitted the principle, but not the "wholesomeness," of torsion, because it involved more care, labor, and attention than could possibly be bestowed by students.

Mr. Callender said that, to judge fairly, torsion should be compared with other modes of controlling hemorrhage, and remarked that small vessels can be easily managed with ordinary spring forceps.

Mr. Arnott observed that the untwisting of the arteries had, in his experience, constituted a difficulty.

Mr. Thomas Smith thought it desirable that Mr. Forster should state very explicitly his mode of procedure; the success in his hands was undoubted, but was not confirmed, in many instances, by the practice of others.

The president said that torsion had been practised at recurring periods over and over again; that (as he was informed) it had been used at Hamburg, to the exclusion of all other modes for controlling hemorrhage, for fourteen years continuously, and was then given up because the time occupied was very great, and also because the ligature was thought to be more secure. He spoke favorably of acupressure, and remarked that no cases of secondary hemorrhage had occurred with this method of treatment, as practised by Keith and Pirrie at Aberdeen; that, according to his own belief, the ligature is not the best mode, except on the score of safety; and that the important question to determine is, which mode of procedure results in the largest number of recoveries, and of immediate union?

Mr. Forster, in reply, said that he wished to compare torsion with acupressure rather than with the ligature. There was little doubt, however, that all these plans were admirable, as immediate agents, but that we should look to the

future. He averred that secondary hemorrhage sometimes ensued both after the application of the ligature and acupressure, but that in torsion it could not occur; that in the very last case on which he operated the only parts of the stump that did not slough were those around the artery, which latter was atheromatous and could not have been secured by ligature. He thought Mr. Croft's objection entirely untenable, and recommended Mr. Gascoyne to live and learn.

Mr. Callender closed a very interesting discussion by remarking that, out of more than sixty capital operations performed at St. Bartholomew's Hospital during the year 1869, no case of secondary hemorrhage had occurred after the application of ligatures.

Art. 149.—*Clinical Lecture on Periostitis, &c.*

By James Paget, F.R.S., D.C.L.

(*British Medical Journal*, January 22.)

The following is an abstract of a clinical lecture given by Mr. Paget:—

The principal subject of the lecture was *Periostitis*, and especially the rare form of it in which the disease goes on to necrosis, without the implication of any tissues external to the bone, without the formation of pus, and consequently without sinuses. The sequestrum in such cases is found in a cavity whose walls are formed of soft granulations bounded by the immensely thickened periosteum, all the superficial structures being quite healthy. The results are an enlargement of the bone, generally involving the *whole circumference of the shaft;* constant pain, which is often worse at night; and tenderness on pressure.

We have to distinguish such a case from, 1st, *cancer*, in which, however, the increase in size is much more rapid than in these cases of masked necrosis, while the pain is neither so constant, nor is it liable to special nocturnal exacerbation; while, lastly, the tumor in cancerous disease does not uniformly surround the shaft of the bone. 2. In certain low, somewhat flat, bony, or cartilaginous *outgrowths* from the surfaces of long bones, especially the femur, the growth occurs from only one part of the circumference of the shaft, and it often becomes complicated by the formation of a bursa over its surface, while it is liable to attacks of periostitis, accompanied by the usual signs of that disease.

The patient whose case illustrated these remarks was a servant girl who had been treated for pain in the knee for some weeks before admission. She presented, on admission, a considerable uniform enlargement of the shaft of the femur, tender and painful. She stated that she had been in the habit of breaking sticks across the thigh—a circumstance Mr. Paget thought of some interest in the absence of other ascertainable causes of the disease. She was kept under observation for about three months, during which time blisters, complete rest, and gradually increasing doses of iodide of potassium, gave her only partial and temporary relief from pain. There was not much increase in the size of the swelling during this time.

The pain remaining, and there being no positive signs of malignancy, Mr. Paget cut down on the enlarged femur, and removed from the swelling a piece of dead bone about an inch and a half in length. The periosteum was much thickened, and the cavity containing the sequestrum was lined by soft granulations.

Two other cases were alluded to. In one, the humerus enlarged so rapidly as to simulate cancer; but an incision showed cavities containing some inspissated pus and pieces of dead bone; there were no sinuses. The other specimen consists of the femur and tibia of a man whose history is unknown. There is abundance of new bone surrounding a necrosed portion of the shaft in each bone; but there are no sinuses.

In speaking of the treatment of periostitis Mr. Paget advocated the use of *repeated blisters*, especially in the "relapsing periostitis," which often occurs in the neighborhood of united fractures particularly (in old people), or at the

seat of former necrosis. Iodide of potassium influences chiefly periosteal inflammations—not inflammations of the bone-substance; and Mr. Paget thinks that the different forms of periostitis are influenced by the iodide in something like the following order: 1. Syphilitic; 2. Chronic gouty periostitis; 3. Scrofulous periostitis; 4. That form associated with chronic rheumatic arthritis, over which iodide of potassium has no power at all.

Sloughing in cases of Damage to the Spinal Cord.—Mr. Paget made some remarks on this subject in connection with a patient who has been in hospital for several months, suffering from partial paralysis after severe concussion of the spine. The man received an injury to the spinal cord three years ago; he recovered from the partial paralysis so far as to be able to resume his work, until he met with a second accident, which caused severe concussion and very considerable impairment of sensation and motion below the original seat of injury. Soon after the second injury, sloughing of the skin of one foot occurred. Mr. Paget considered that this case well illustrates the facts that simple *loss* of nerve-power is followed only by *wasting* of the paralyzed parts; but that if, in addition to loss, there is *disturbance* of nerve-force, we then find disturbances of nutrition quickly following the injury, such as extensive bed-sores and sloughing of integument on the feet. After the first injury, this man's spinal cord was simply weakened, probably; after the second accident it was irritated as well, and accordingly portions of his skin quickly died. Mr. Paget remarked also, that if sloughing does take place from irritation of the cord, it always comes on soon after the injury or disease; if we can prevent bed-sores during the first week or two the patient is nearly safe.

Art. 150.—*On Compound Fractures.*

By Sampson Gamgee, F.R.C.S.

(*Medical Press and Circular*, December 22, 1869.)

At a meeting of the Medical Society of London, held December 6th, Mr. Sampson Gamgee read a paper on compound fractures.

He preferred to our own the French division into simple and complicated fractures, the latter including swelling and wound. A fracture with a penetrating wound may be and often is a less important injury than what is commonly called a simple fracture, though accompanied with much bruising of the soft parts, and consequent swelling. In all cases, if the limb is to be saved, the author recommends adherence to the same principle of treatment, immediate reduction, immobility and compression; soft pasteboard splints are the agents chiefly relied on, but to be efficient they must cover indeed the joint above as well as below the seat of fracture—a principle firmly inculcated by Percival Pitt, who was erroneously held to be the advocate of position against splints. On the great value of pasteboard splints, the sound practical teaching of Jean Louis Petit was contrasted with the fanciful objection of Malgaigne. The fallacy of John Bell's objection, and the use of compressing bandages in fractures were fully exposed, and a number of cases were adduced to illustrate the author's practice, amongst them one of compound fracture of the ankle-joint, in which complete recovery followed excision of the astragalus and the application of a compressing pasteboard apparatus, only opened for the dressing of the wound once in nine days. Referring to Professor Lister's carbolic acid treatment, Mr. Gamgee said: "Until the distinguished surgeon whose intimate friendship during the whole of my studentship I shall deem one of the greatest happinesses of my life, thinks well to publish his views and experience in a collected form, it will not be possible to examine them with that completeness and impartiality which his character and position, no less than the importance and difficulty of the subject deserve; but having read all that the Edinburgh Professor has hitherto published, and having seen his practice, with the advantage of his personal exposition in the Glasgow Infirmary, I do not hesitate to say that, so far as I am able to judge, the practice of introducing pure carbolic acid into the innermost recesses of a compound fracture is a mistake."

ART. 151.—*On Excision of the Joints for Disease, and especially of the Knee, Hip, and Elbow.*[1]

By FREDERICK JAMES GANT, F.R.C.S., Surgeon to the Royal Free Hospital.

(*The Lancet*, April 30.)

The primary object of this paper is to lay before the Society the *conditions of disease* which, in the author's experience, seem to be appropriate for excision of the joints in general; and those conditions also which specially pertain to the knee, hip, and elbow, severally, with relation to this operation, as illustrated by the accompanying cases.

So far as the appropriate nature of these conditions of disease may be established by the typical character of the cases adduced, and confirmed by an increased number, they will represent principles whereby to determine the propriety of performing the operation of excision in diseases of the joints.

With this view the author has appended a careful analysis of each series of cases in regard to their pathology and the operation itself, and its results; and also of the general results of excision in the cases taken collectively, and the relation of these results to the pathology of the joints subjected to operation.

The necessity either for excision or for amputation in joint disease implies incurability by non-operative treatment. As regards excision, incurability is defined to signify that condition of the local disease wherein the joint has become *functionally useless* by destruction of the articular cartilages, without the supervention of anchylosis, but while the *constitution* still retains the reserve power requisite for the long process of reparative union—averaging three months after removal of the diseased bone. Any other cases—namely, of advanced local disease—if not falling within the provision of the latter clause of the definition as to the requisite constitutional reserve power, but which are accompanied with prolonged hectic and exhaustion, will be proportionately unfavorable or unfitted for excision, and must be submitted to the alternative operation—amputation.

As compared with the *natural cure* by anchylosis, as a possible result in joint disease, excision would seem to be preferable in proportion to the more prolonged period of recovery when unaided by surgical removal of the diseased bone, a probation which entails long-continued suffering, and ultimately leaves the constitutional vigor reduced and inadequate to sustain the contingencies of disease in after-life.

Failures of the natural cure are then considered with regard to excision. This comprises two results: defective kind of anchylosis for the functional use of the limb, as fibrous anchylosis in knee-joint disease, and osseous anchylosis in elbow-joint disease; or malposition of the limb, accompanied perhaps with defective anchylosis.

The author then proceeds to state *in extenso* the pathological conditions, or those of disease, and their results from failures of reparation, which severally justify the operation of joint-excision, and those also which specially pertain to the knee, hip, and elbow. The histories of the illustrative cases are narrated, and their analyses appended.

The following *general* results may be enumerated in this abstract:—

1. *Excision* proved successful, by one operation, in 16 out of 20 cases of the joints referred to.

2. Of the 4 unsuccessful cases, by one operation, 3 were cases of *scrofulous* disease, and of the knee-joint, out of a total of 9 cases; the remaining one being *chronic synovitis*, and of the elbow-joint, out of 5 cases.

3. *Re-excision* was resorted to in 2 of the 4 cases; 1 knee-joint and 1 elbow-joint, the latter with a successful result.

---

[1] Abstract of a Paper read at a meeting of the Royal Medical and Chirurgical Society, April 12.

4. *Secondary amputation* in 3 of the 4 cases. All three were knee-joint cases, and of scrofulous disease; one of which had been subjected to re-excision. The 3 amputations made *rapid recoveries*. These results tend to show that if the attempt to preserve a limb by excision, and even by re-excision, of a large joint, as the knee, should fail, the operation is not unfavorable to secondary amputation for the preservation of life.

5. *No death* ensued in any of the 20 cases of the knee, hip or elbow-joints, whatever had been the condition of disease, or the operation—excision, re-excision, or secondary amputation.

Art. 152.—*On the Treatment of Effusions of Blood in Cases of Compound Fracture.*

By M. Bourguet, of Aix.

(*Montpellier Médical*, 1862.)

This memoir terminates with the following conclusions:—

1. The actual doctrine relating to the abstaining from all surgical intervention in cases of large effusion of blood communicating with the seat of a fracture so long as the fracture itself is not consolidated, is too absolute.

2. Capillary punctures or punctures with a very small orifice, by evacuating the collection of fluid without allowing air to penetrate into the interior, are capable of rendering undoubted services in the treatment of compound fractures.

3. The puncture ought to be repeated as often as the blood tends to accumulate in the hæmatic sac and to distend its walls. Each puncture should be made in a different place.

4. The most favorable moment for practising the first puncture is when it is perceived that the resolution of the tumor makes no more progress, that its walls are becoming thinner, that fluctuation is becoming apparent, and likewise some signs of inflammation have been discovered.

5. The facts hitherto collected tend to demonstrate that this practice, far from favoring suppurative inflammation at the seat of fracture, rather serves to prevent it, and at the same time permits adhesion of the integument and a gradual retraction of the walls of the hæmatic cyst itself.

Art. 153.—*Nævoid Elephantiasis.*

By Thomas Smith, F.R.C.S.

(*St. Bartholomew's Hospital Reports*, vol. v.)

This very curious affection, which has been named and described by Professor Fayrer, seems to consist in the ordinary form of elephantiasis, or Barbadoes leg, *plus* a nævoid condition of the skin and subjacent tissues. Mr. Smith has seen two such cases, the best marked of which forms the text of the present paper. It occurred in a child of nine months, having existed at the time of birth, when it greatly impeded delivery; but since the age of seven months had very much increased. The whole of the right lower limb and buttock were hypertrophied, the leg and foot being in a condition undistinguishable from that seen in elephantiasis Arabum, while the thigh, though proportionately less enlarged and softer, was extensively stained on its outer side, with a dusky red cutaneous nævus. The limb was extensively warmer than its fellow, from three to four times its circumference, and three inches longer, the lengthening being due to hypertrophy of the integuments over the heel and plantar surface. The swelling diminished somewhat under firm bandaging, but the child soon after died without any very obvious case. A very good description of the affected part, which was removed and carefully dissected, is added, and illustrated with three excellent lithographic plates. Mr. Smith refers to several cases lately published of *elephantiasis* accompanied with *lymphorrhœa*.

"It is thus not unlikely," adds Mr. Smith, "that under the term Elephantiasis Arabum, three diseases, quite distinct in their origin, though identical in their results, have been often included—namely, what we may term lymphatic elephantiasis, vascular or nævoid elephantiasis, and the ordinary elephantiasis Arabum of climatic origin. These diseases, though arising from different causes, have this in common, that as a consequence, the elements of nutrition (whether contained in blood, chyle, or lymph) are in excess in the part affected, and that as a natural result the overfed tissues become overgrown, the overgrowth being specially manifest in those tissues that are more lowly organized, and are perhaps less discriminative in the materials they select for their nutrition."

The question of tying the common iliac artery had been discussed before the death of the patient, and Mr. Smith therefore, as an experiment, tried to apply a ligature upon the corpse, but found so free a flow of blood from the spongy venous tissue in the lumbar region, as to render it very doubtful whether the operation would have been practicable during life.

ART. 154.—*A Case of Traumatic Tetanus Treated by Subcutaneous Injection of Calabar Bean.*

By WILLIAM HAINING, M.D., House-Surgeon to the General Infirmary, Chester.

(*The Lancet*, December 18, 1869.)

Dr. Haining reports a case of traumatic tetanus treated by subcutaneous injection of Calabar bean which exemplifies the beneficial effect of the remedy as well as the safety with which it may be administered in doses hitherto regarded as dangerously large.

From the results obtained it may not be too much to infer, writes Dr. Haining, that in tetanus the administration of Calabar bean should not in any case be limited to effect mitigation of the symptoms, but should be perseveringly continued in doses gradually increasing from one grain every two or three hours, until either the tetanic spasms are completely overcome, or the physiological effects of the drug are manifested to a dangerous degree. Once having obtained a complete relaxation, it seems far from improbable that, in a large proportion of cases, careful, free repetition of the doses on the return of the least appearance of spasm, may enable us to maintain complete control over the symptoms, until their cause becomes much enfeebled or is altogether removed.

ART. 155.—*A Case of Traumatic Tetanus Treated Successfully with Douches and Shampooing.*[1]

By M. BRACHET.

(*Gazette Hebdomadaire*, No. 47, 1869.)

The patient in this case was a gardener, who whilst reaping had cut his right thumb, the wound involving the pulp and part of the nail. Cicatrization was almost complete when the patient, after an exposure of some hours' duration to cold, was affected with pain in the neck and severe tetanic symptoms. When M. Brachet saw the patient, twenty days after the wound in the thumb, the tetanic phenomena were complete. The patient, in the horizontal position, touched the bed only with the summit of his head and his heels; all the dorsal muscles were contracted. The fingers were bent, the facial muscles contracted, and the integument of the face and neck of a violet color. The arms alone could be moved; the pulse was small, the skin cold. These symptoms had lasted for five days before M. Brachet's visit. On the following day the patient

[1] Communicated by M. Forget to the Société Impériale de Chirurgie.

was placed in a bath at 36 degrees centigrade, and a very powerful douche was applied whilst shampooing was being performed. The first trial gave no good result. On the following day, three douches of three hours' duration each were applied, and at the same time energetic shampooing. This was continued on the following days. Five days after the commencement of this treatment, the patient performed some movements of flexion with his head, and the mouth could be opened. Next was observed a progressive relaxation of the muscles of the back and jaw. Deglutition could then be performed, and the patient for the first time since the commencement of the bad symptoms, was able to sleep. The action of the skin was resumed, and the patient made a complete recovery.

ART. 156.—*On Certain Points in the Treatment of Venereal Diseases.*

By W. JOHNSON SMITH, F.R.C.S. (Exam.), Assistant Surgeon Seamen's Hospital, Greenwich.

(*The Lancet*, March 19.)

At a meeting of the West Kent Medico-Chirurgical Society, held February 11, Mr. W. Johnson Smith read a paper on certain points in the treatment of venereal diseases. In discussing the treatment of gonorrhœa, he stated that the uncertain duration of the disease, and its frequent persistence, in spite of active treatment, were to be rather attributed to neglect of rest and points of hygiene, than to inertness of the surgeon's remedies. The chief remedies, in a case of acute gonorrhœa, he considered were the alkalies, tincture of aconite, bromide of potassium, and the balsams, of which the oil of yellow sandal-wood was by far the most efficacious. In speaking of gonorrhœal epididymitis, the author stated that in mild and subacute cases the only treatment required was to keep the patient in the recumbent position, with the scrotum elevated for two or three days. In very acute cases, where the inflammation of the scrotum was high, and speedy relief required from the severe pain, puncture of the testicle, as recommended by Mr. Henry Smith, was a very beneficial proceeding. In speaking of the treatment of constitutional syphilis, the author stated that of late years there had been a tendency among surgeons to substitute an external for an internal administration of mercury. The last step in this direction consisted in the hypodermic injection of this agent, a mode of treatment for some time past extensively practised in Berlin and in Paris, and lately advocated in this country by Dr. Walker, of Peterborough. For iritis, scaly eruptions, and mucous patches, a solution of corrosive sublimate, injected below the deltoid muscle or under the skin of the back, acted far more efficaciously and speedily than other modes of administering mercury. The great disadvantage of the hypodermic mode was the severe and persistent pain at the seat of the puncture. The injection was often followed, in the course of thirty-six to forty-eight hours, by a painful and circumscribed swelling in the subcutaneous connective tissue, which generally disappeared in the course of twelve hours.

ART. 157.—*On the Treatment of Constitutional Syphilis by the Use of Creasote and Carbolic Acid.*

By JOHN MORGAN, F.R.C.S.I., &c., Surgeon to Mercer's Hospital, and the Westmoreland Lock Hospital, Dublin.

(*Medical Press and Circular*, January 12.)

Having treated, during the last twelve months, a large number of cases of constitutional syphilis by the administration of creasote in full doses, Mr. Morgan draws attention to its value when given in the early stages of constitutional infection, and specially where mercurial treatment is inadmissible, or when patients are of the strumous diathesis.

Mr. Morgan cannot claim for the creasote treatment a uniform success, but

he has found it most decidedly useful and curative in many instances of constitutional manifestations.

The cases in which the author adopted this method were chiefly those suffering from the first influences of this "syphilitic constitution," such as mucous patches, roseola, papular eruption, and cachexia. The usual plan he followed was, keeping the patient in bed as far as possible, allowing a nourishing diet, and the use, at least every second night, of a warm bath, to which two ounces of carbolic acid were added; the patient should remain in this bath half an hour, or even longer, so as thoroughly to influence the skin. The creasote mixture Mr. Morgan prescribed was—

℞.—Creasoti, ʒj.
Mucilaginis, ℥j.
Tere et adde—
Tinct. opii, ʒj.
Aquæ menthæ pip., ℥vij.—M.
Sumat coch. i. magnum, quater in die.

Usually within ten days an amelioration takes place, and gradually the signs fade. Should iritis or any acute sign appear requiring mercurial treatment, this remedy can be given as well as the creasote mixture.

ART. 158.—*Case of Syphilis Treated by the Subcutaneous Injection of the Perchloride of Mercury.*

Under the care of Dr. MCCALL ANDERSON.

(*Glasgow Medical Journal*, February.)

The following case is reported by William MacEwen, M. B., C. M.: C. K., aged fifteen, worker in pottery, was admitted on November 12, 1869. He was feverish, and complained of rheumatic pains in his right elbow and left shoulder. These had existed for a fortnight, were very severe, most so at night, and were accompanied by swelling of the affected joints. Pulse, 82; of fair strength. Bowels costive. Tongue clean.

On examination of patient Dr. Anderson found that he was laboring under gonorrhœa, complicated with phimosis, and he pointed out that in all probability this was a case of gonorrhœal rheumatism, and not, as at first sight appeared, of rheumatic fever. This opinion was verified by the fact that there was an absence of cardiac affection, and sour-smelling perspiration, such as is often observed in cases of the latter disease; that the pain was very intense, and that there was no tendency of the inflammation to flit about from one joint to another. He was ordered an injection of sulph. cupri (gr. 1 to ℥j), to be used five or six times a day; the following mixture was prescribed:—

Ox. potas. iodidi, ʒj.
Syr zingib., ℥vj.
Tinct. gentian. Co., ℥iv.
Aq. ad ℥xxiv.
Sig., a tablespoonful three times daily.

In a few days the inflammation had completely subsided in the left shoulder, but remained obstinately fixed in the elbow. Liniment of iodine was therefore ordered to be painted over the part, night and morning, on the 20th of November.

On the 23d the part was decidedly easier, the gonorrhœa had disappeared, and the glans could be uncovered. A superficial cicatrix with slight induration was then detected on the prepuce, the inguinal glands were engorged, small coppery stains were detected upon the thighs, a well-marked syphilitic roseola covered the chest and abdomen, and several glands at the back of the neck were found to be enlarged. There were no other constitutional symptoms, there was no fever, the patient felt well.

The previous treatment was stopped, and the following mixture was prescribed for subcutaneous injection:—

℞.—Hydrarg perchlor., gr. iv.
Aquæ, ℥j.

The first injection was given on the 24th Nov. Every day 15 min. (¼ grain) was injected into the subcutaneous cellular tissue of back at first, latterly of gluteal region. The pain of the injection was not severe, and was of short duration; and no local inflammatory symptoms were induced. By the 16th Dec. he had had twelve injections (*i. e.*, gr. 1½ of the perchloride had been used).

The glandular enlargements were decidedly diminished, the syphilitic roseola had disappeared, but the coppery stains on the thighs were still visible. There was not the slightest indication of salivation, and the patient felt well in every respect.

The rheumatic affection of the elbow disappeared entirely a few days after the perchloride was commenced. The injections were continued daily until the 2d Jan. 1870, by which time 5 grs. had been injected, and he was then dismissed.

Art. 159.—*On Induration in Syphilis.*

By Victor De Meric, F.R.C.S.

(*Medical Press and Circular*, February 16.)

At a meeting of the Harveian Society of London, held Feb. 3d, Mr. De Meric read a paper on induration in syphilis.

Before entering on the subject in hand, the author cautioned his hearers as to the danger of being hasty in diagnosis respecting recent lesions on the parts of generation; and alluding to the lesions called chancre, he stated that he believed the latter, *bonâ fide* syphilitic, to be simply the first sign of the contamination of the organism. This chancre was almost always indurated, and therefore it was interesting to discuss the four following points: 1. What is known of the histology of the indurated mass? 2. The peculiarities of the latter according to locality; 3. Whether this kind of induration can be easily distinguished from other kinds; and 4. Whether syphilis may exist without it. Mr. De Meric treated these points in a rapid manner, showing—1st. That our knowledge as regards the nature of the induration was as yet imperfect; and 2d. That very striking distinctions existed as to shape and feel of the induration according to locality. The author alluded especially to the indurated stratum said to form the base of those well-known chancres which are observed on the skin of the penis. This parchment induration, as it has been called, he had often sought in vain, and thought it rather problematical. Such chancres, however, he had always seen followed by secondary symptoms. Mr. De Meric inquired, in the third place, whether mistakes were likely to occur as to distinguishing syphilitic induration from simple œdema and ordinary infiltration, very simple rules for avoiding error being pointed out. The important subject of the complete absence of induration in the irritatory symptoms of syphilis was then discussed. From cases quoted it was shown that this induration may be completely absent, and that exceptional instances have been noted by the author where no evident irritatory symptom could be made out. Mr. De Meric concluded his paper by some remarks on the therapeutics of induration, mercury being the chief agent used.

SECT. II.—SPECIAL QUESTIONS IN SURGERY.

(A) CONCERNING THE HEAD AND NECK.

ART. 160.—*Clinical Lecture on Injuries of the Head.*

By JAMES PAGET, F.R.S.

(*British Medical Journal*, February 5.)

The subject of this lecture was illustrated by two cases of injury to the head, which have lately been under Mr. Paget's care.

In the first case, a boy, aged eleven years, met with an accident which caused a compound, slightly depressed, and starred fracture of his left parietal bone. He was stunned for some hours, then vomited, and the next day sat up in bed and answered questions. He had then no symptoms of compression, and for that reason he was not trephined. He went on well for twelve days, but on the thirteenth he was found to be flushed, and to have a rapid pulse, quick breathing, and a temperature of 103.2; two days later he was found to have signs of double pneumonia, after which he gradually sank, and died two months after the accident. At the post-mortem examination both pleuræ were found filled with purulent fluid. The dura mater corresponding to the depressed portion of the bone was inflamed and adherent to the bone; there was no inflammation of the arachnoid, but in the substance of the hemisphere immediately beneath the depressed fragment of bone, was a small abscess or slough of brain-substance, about as large as a sixpence in area.

In alluding to this case, Mr. Paget remarked that compound fractures of the skull in young persons are usually recovered from without interference when there are no signs of compression, but considered it possible that in this patient, trephining, although contrary to his usual practice in such cases, might have been beneficial. Mr. Paget thought, however, that it was very doubtful whether the elevation of the depressed fragment would have put the lad in any better position with regard to pyæmia than leaving it alone. In referring to the treatment of the secondary inflammation in cases like this, Mr. Paget said that he was not aware of any rule which could be laid down on the subject; secondary trephining in the present case would clearly have been absurd.

On the question of trephining for injuries of the head, Mr. Paget said he did not consider that large enough statistics of successes and *failures* had yet been collected to admit of our forming rules which shall be constantly applicable. Mr. Paget gave the following provisional laws as, in his opinion, expressing the results of our present knowledge.

1. *Simple Fractures of the Skull.—a.* When there are no signs of compression, and no depression, leave the patient alone. *b.* Without depression, but with signs of compression (*i.e.*, abiding insensibility), we may interfere *if we can diagnose the seat of fracture.* *c.* When there is depression, but no sign of compression, it is best to do nothing if the patient be *young:* if *old*, however, there is some doubt about the propriety of non-interference. *d.* When there is depression and compression we must operate.

2. *Compound Fractures.—a.* When there is no depression, and no sign of compression, as a rule—especially in young patients—do nothing. *b.* When there is no depression, but there are signs of compression, it is right to interfere. *c.* With depression, but no signs of compression, it is best not to interfere when the patient is young; but probably it is right to operate on an old person. *d.* With depression and abiding insensibility, operate.

The second patient to whom Mr. Paget referred was a man who was admitted for compound fracture of the lower jaw and of the nasal bones, lacerations, and contusions. He was supposed, from appearance after the accident, to be drunk. The next day he was quite sensible, but restless; on the fourth or fifth day he

became partly comatose; his breathing was very quick, and his face became much swollen and erysipelatous. Mr. Paget diagnosed some secondary erysipelatous inflammation in the cranium. The man continued to get worse, and died. At the post-mortem examination a fracture was found extending through the nasal bones, superior and inferior maxillæ, ethmoid, sphenoid, and basilar process of the occipital bone, into the foramen magnum. Purolymph in abundance lined the dura mater, and pus was found in the meshes of the pia mater, especially along the lines of the larger arteries. Mr. Paget called attention to the disproportion between the immediate symptoms in this case and the extent of the injury, and remarked that fractures of the base are frequently unattended by signs of compression. Mr. Paget also noticed, in this connection, that fractures of the anterior part of the skull are far less fatal than those of the posterior part.

Mr. Paget alluded, in connection with these two cases, to the nature of the secondary inflammation, and insisted on the importance of drawing a broad line in practice between an inflammation which results directly from an injury and one which follows it at an interval of several days; the former being sthenic, the latter asthenic and allied to the erysipelatous inflammations.

This led to the subject of *erysipelas*. Mr. Paget referred to a case now under his care, which illustrated the tendency of erysipelas to shift about from one part or organ to another. The disease, Mr. Paget remarks, is well known to shift from one part of the surface to another, and from the surface to a deeper organ, but it very rarely shifts from a deep structure to one more superficial. Mr. Paget mentioned the following case as an illustration of this rare condition. The patient (a little girl) was admitted on account of a severe burn. She became affected with delirium, fever, and restlessness, and these symptoms led Mr. Paget to diagnose an inflammation of the brain membranes. When she had been in this state for three days, however, erysipelas appeared on the scalp, and simultaneously the delirium was relieved, showing, in Mr. Paget's opinion, a translation of the erysipelatous inflammation from her brain membranes to her scalp.

In connection with the recent occurrence of some cases of erysipelas in his wards, Mr. Paget made some remarks on the extreme importance of cleanliness in the treatment of this disease, especially with the view of preventing infection. Mr. Paget said that, although several cases of erysipelas had been in the neighborhood of patients on whom operations had lately been performed, and had even *originated* in the wards, yet no single case of propagation of the disease had occurred; and that he believed this result to be mainly due to scrupulous care in keeping everything about the patients and in the wards very clean, dry, and well ventilated.

Art. 161.—*When and when not to Trephine.*

By Baron Larrey.

(*Chicago Medical Journal* October, 1869; and *New York Medical Journal*, April, 1870.)

Baron Larrey, in his important work on trephining, in traumatic lesions of the skull (published by Victor Masson and Co., Paris), thus summarizes the indications and contraindications for this operation:—

Indications.—Trephining should be practised in traumatic lesions of the head, if symptoms, clearly localized and circumscribed, persist, and, if all other means are unavailing, in the following cases:—

1. In fractures of the vault, by perforation or with imbedding of the fragments, whenever the injury to deep-seated parts occasions grave and continuous consequences, while remedial measures other than trephining may be impossible or inefficacious.

2. In fractures complicated with the perforation of foreign bodies of the thickness of the cranium, or with penetration into the superficial layers of the brain with persistence of symptomatic accidents, if the extraction of the foreign body can be effected in no other way.

3. In the different mechanical lesions of the head, complicated with grave and persistent cerebral symptoms, such as contusion and compression of the brain, or even prolonged hemiplegia with extravasation of blood or of pus, considered as circumscribed, provided that the lesion can be localized, and provided especially that active therapeutics remain insufficient.

Contraindications.—Trephining should not be attempted in cases of lesion speedily or necessarily fatal, nor in those presumed to be curable by other means:—

1. When a foreign substance, lost in the deep portions of the brain, has passed beyond the reach of instruments.
2. If blood or pus, extravasated within the cranium, does not appear to form a focus in relation with the opening in the bone.
3. In every case of fracture not complicated with firm imbedding of the fragments, nor with prolonged phenomena of compression or paralysis.
4. In the condition of cerebral commotion or coma, with or without localized lesions.
5. In indeterminate or epileptiform convulsions, not persistent and susceptible of cure.
6. In diffuse inflammation of the brain or its membranes, when clearly appreciable.

ART. 162.—*Extraordinary Recovery from Extensive Saw-wound of the Skull.*

By A. C. FULSOM, M.D.

(*Pacific Medical and Surgical Journal.*)

Dr. Fulsom relates the following: A man received a dangerous wound of the head from a circular saw, and was seen by him in about half an hour, when he found the condition of things to be as follows: The wound commenced at the frontal bone, half an inch above the nose, and extended a little to the left and a little below the occipital protuberance, passing through the superior edge of the parietal bone. Measured by the convex surface of the skull, the length of the cut in the bones was nine inches. They fell apart over an inch—the length of the scalp wound being eleven inches. The membranes of the brain, as well as its substance, were divided, the former much lacerated, and the latter falling apart sufficiently to admit a common pocket rule to the depth of one and a half inches, and a small silver probe two inches, before touching the walls of the cut. Thirty-two minute pieces of bone, together with considerable sawdust, were taken from the wound, also a tablespoonful of the substance of the brain. No large arteries were severed, and the patient did not lose over two ounces of blood. The pulsation of the cerebral arteries could be distinctly felt, and there was no congestion of the brain or its membranes. The pulse 72. No pain or undue sensitiveness about the wound. The patient could not tell when the brain, membranes, or walls of the cut were touched, but the scalp was sensitive when handled. The cranial bones were brought in apposition by placing a tourniquet around the head, and gradually tightening it. The scalp wound was brought together by sutures, places being left for the exit of pus. The sutures were removed on the eighth day, and the wound healed by first intention, except at the places purposely left open. There was no cerebral disturbance, and no medicine required. He was dismissed at the end of three weeks, and in five or six weeks from the date of the injury he was again at work in the mill.

ART. 163.—*Total Loss of Nose through Disease; Rhinoplasty by a New Method; Successful Result.*

Under the care of Mr. JOHN WOOD, at King's College Hospital.

(*The Lancet*, February 26.)

Cosmetic surgery has not arrived at such a state of perfection as that a new process for the restoration of a lost nose will be unacceptable to those charged with the task of supplying so important a feature. The result in the following case was good:—

John R——, aged twenty-seven, was admitted on the 13th September, 1869. The nose was entirely absent, the centre of the face presenting a large orifice, the margins of which were formed of tense cicatricial tissue. This hideous disfigurement was the result of a slowly spreading ulceration, which commenced in the summer of 1867, in the East Indies, after an attack of scurvy, and persisted up to November of the following year, in spite of caustic applications. The disease commenced at the left internal canthus, and finally invaded the palate bone, causing in its progress an almost complete destruction of the nose. The man's condition had been rendered more distressing by an unsuccessful attempt which had been made, before his admission under the care of Mr. Wood, to form a nose from the skin of the forehead. The patient, who seemed a healthy man, was extremely anxious to have something done for his relief, and expressed himself as willing to undergo any operation, however slight might be its chances of success, for he felt that his condition could not be rendered worse.

Operation, Sept. 18th.—The patient having been placed under the influence of chloroform, Mr. Wood took from the integument of the face, on either side of the central chasm, two large leaf-shaped flaps, the pedicles of which were directed towards the corresponding internal canthi, and made broad in order to permit a full vascular supply to the bodies of the flaps. A greater extent of flap was made on each side than seemed necessary at first sight for covering the nasal aperture, in order to allow for the subsequent shrinking of the skin, and the retractile action of the included muscles. After this stage of the operation had been completed, the upper lip was divided from above downwards, on either side of the median line, and an oblong flap formed, which was then elongated by a slit having been made between the mucous and cutaneous surfaces, as far as the free border of the lip, which was not cut through. The long and thin flap thus formed was turned upwards, and fastened by a suture to the upper edge of the nasal chasm, and the external flaps were then carried inwards from the cheeks, and applied over its anterior raw and bleeding surface. The long strip of living and vascular tissue thus formed by the division of the outer from the inner surface of the lip, made a good base of support for the new nose. The lateral flaps were stitched together in the median line, and to the tissues at their outer edges, with the exception of a small portion on the left side, where the tissue was cicatricial, and too thin to allow of extension. The wound in the upper lip was then closed by pins and twisted suture. In the final stage of the operation, the edges of the large gaps formed by the removal of the lateral cheek flaps, were brought together, and towards the middle line, by sutures of thick wire passed from one side of the face to the other, and made fast at both ends to pieces of an elastic urethral bougie. The soft tissues of the cheek were previously detached over a great extent from the bone beneath, in order to facilitate the inward gliding of the integument over the raw surfaces, and also to prevent the zygomatic muscles from acting on the new nose. Before the patient's removal from the operating theatre, a small apparatus consisting of two pieces of elastic catheter, traversed by a piece of wire bent at an acute angle, was passed behind the newly-formed septum, and under the lower margins of the lateral flaps, in order to allow the passage of air, and to support the transplanted and flaccid alæ.

From the date of the operation the case made favorable and rapid progress.

On October 30th the patient was shown in the operating theatre, and then presented a great improvement in his personal appearance. The large and unsightly aperture in the centre of the face had been covered over with sound and firm integument, and was somewhat elevated above the level of the surrounding parts, forming a very useful nose.

Mr. Wood, in his remarks upon the case, stated that the man had been retained in the hospital for a short time, as he intended to devise some small instrument for insertion behind the newly-formed organ, in order to render it more prominent.

ART. 164.—*Notes of a Case of Expansion of the Antrum of Highmore.*

By the late CHARLES HEWITT MOORE, F.R.C.S., Surgeon to the Middlesex and St. Luke's Hospitals.

(*The Lancet*, March 26.)

At a meeting of the Clinical Society of London, held February 25th, Mr. C. H. Moore read notes of a case of expansion of the antrum of Highmore. The patient was a gentleman, above whose right bicuspid and first molar teeth a rounded bony tumor projected into the mouth. At two parts circular holes in the bone could be felt through the mucous membrane. The mucous membrane covering the posterior aperture gave way, and an exceedingly fetid, pultaceous, brown substance escaped slowly into the mouth. Mr. Moore made a more free opening into an anterior part of the tumor, and, squeezing out much of its offensive contents, examined the cavity with a probe. He found the space to correspond with the normal relations of the antrum, except towards the malar portion, where in a third place the bone was defective, and the probe could be felt against the cheek. No dead bone could be detected, and throughout the progress of the case no trace of the fetid substance was ever recognized by the patient in his nostril. The teeth next to the tumor were sound, but outside the first molar the gum had receded, and a fine probe introduced with light pressure at that spot passed up the socket for an inch and three-quarters above the crown of the tooth, where it struck against the floor of the orbit, there being expansion of the anterior part of the antrum, and circular apertures in its wall, resulting from distension, not from ulceration; the orbit and palate were free from deformity, and the nostril also was natural, having no communication with the fetid stuff in the bony antrum; there was, moreover, no burrowing suppuration, and no necrosis. Mr. Moore concluded that the cause of the expansion lay in the communication of the bony antrum with the mouth, and that the peculiar substance was food driven up by mastication through the socket of the healthy molar tooth. This substance had slowly stripped off the lining membrane of the antrum, and thrust it inwards, thus obliterating the antrum as a mucous cavity. A vulcanite tube being worn in the opening which had been made with the knife, and frequent cleansing of the cavity practised, the bony expanded shell of the tumor receded, and in a few months the natural form of the features was restored.

ART. 165.—*On Strangulation of the Tonsils.*[1]

By Dr. HOUZE DE L'AULNOIT.

(*Gazette Hebdomadaire*, No. 17, 1870.)

"Strangulation of the tonsils by the pillars of the fauces is a very frequent affection, especially among adults, although it has not been described by authors.

"In order for the strangulation to take place, it is necessary that adhesions produced by old inflammation exist between the tonsils and the pillars of the fauces, that the increase in the volume of the tonsil be very rapid, and that

---

[1] Communicated to the Académie de Médecine.

the anterior pillar be sufficiently developed and enlarged fo form a constriction for the gland, and to oppose its expansion towards the region of the pharynx.

"Spasmodic contraction of the pillars by facilitating the process of strangulation may give rise to the acute pain experienced by the patient in the variety of angina here discussed.

"The treatment is surgical. It consists in section of the anterior pillar, an operation readily performed and of no danger."

ART. 166.—*Case of Salivary Fistula; Recovery after the Introduction of a Probe.*

Under the care of Mr. PICK, at St. George's Hospital.

(*The Lancet*, February 19.)

In the following case the result was as satisfactory as it was unlooked for; and is interesting inasmuch as it shows how recovery may take place sometimes in a class of cases which are found, at other times, to be most intractable and difficult of cure.

A girl, aged about twenty, presented herself as an out patient at St. George's Hospital, under the care of Mr. Pick, suffering from salivary fistula, which caused her great annoyance, and for which she was anxious to have some operation performed.

The history of the case was very imperfect, but it appears that owing to some unknown cause, when a child she had suffered from an abscess of the face, and that ever since the sinus had remained open; she had had constant dribbling of clear watery fluid from it, which was increased during the process of eating, and she had suffered from dryness of the mouth on the affected side. She was admitted to the hospital with a view to some operative proceeding.

Mr. Pick made an attempt to pass a probe down the canal, in order to ascertain if any opening existed into the mouth; and after employing a slight amount of force, succeeded in passing it a short distance, perhaps half an inch, but was unable to introduce it any further in consequence of the probe being too large. The attempt was therefore abandoned until a smaller probe could be obtained.

The following morning the patient was surprised to find that her pillow, which was always saturated with moisture, was quite dry; and, upon examination, it was found that the opening was completely closed. She remained under observation for a week or ten days, and the part remained perfectly sound. The saliva found its way into the mouth, and she entirely lost the sensation of dryness of which she had before complained.

ART. 167.—*Modifications of Astigmatism produced by the Accommodations.*[1]

By Dr. W. DOBROWSKY.

(*Archiv für Ophthal.*, Band xiv. iii. s. 51–105.)

The author of this paper endeavors to elucidate the effect which the accommodation has upon astigmatism. He first advances the proposition that, by spasm of the ciliary muscle, astigmatism may be fully compensated and annulled. This he proves, first, by a series of cases, in which asthenopia was found to depend on latent astigmatism; the existence of the refractive error was discovered only by the vigorous and prolonged use of atropine. He next undertook a series of experiments upon himself and upon a colleague. One eye he paralyzed by atropine, the other was left normal, and he made many trials of cylindrical and spherical glasses. These were varied in every possible manner. He

[1] From the Clinic of Prof. Ed. Junge, St. Petersburg.

concludes that, for an astigmatic eye with accommodation entirely suspended, the best vision is obtained when the retinal image is formed at a point midway between the two extreme foci, where the circles of dispersion are circular and not oval. But he found that this was not true, when the accommodation was active. On the contrary, the accommodation often abolished the astigmatism, as shown by the perfect definition of very fine print. This was not always accomplished, and required a sensible effort and practice. He could, with hypermetropic astigmatism 1-20, read Snellen xx. at 20 feet. He even concludes that it is easier to overcome a refractive error calling for a cylindrical glass, than an equal error calling for a spherical glass.

The experiments are very numerous, and cover many details which cannot here be cited.

His second proposition is, that unequal contraction of the ciliary muscle and unequal bulging of the lens may diminish astigmatism without causing its entire disappearance. In proof, he reports a case and alludes to others.

In the third place, he asserts that strain and spasm of accommodation may increase astigmatism, and reports a case of myopic and one of hypermetropic astigmatism thus evoked.

Fourthly, spasm of accommodation may change the type of hypermetropic astigmatism, and even transform H to M in one or both meridians.

Fifthly, tetanic contraction of the ciliary muscle may so far increase an insignificant degree of astigmatism as to render it necessary to be corrected by glasses.

From these investigations, which are deeply interesting, he concludes that a correct diagnosis and treatment of astigmatism cannot be made without resorting to the full influence of atropine in addition to the other methods.

ART. 168.—*Operation for Dynamic Divergent Strabismus, in reference to Progressive Myopia.*

By A. VON GRAEFE.

(*Monatsblätter für Augenheilkunde*, s. 225–282, August and September, 1869 and *New York Medical Journal*, February.)

Professor Graefe called attention to a form of asthenopia due to inefficiency of the internal recti muscles, in an article in the *Archives for Ophthalmology* viii. 2, p. 362. He now considers the same defect in its relations to myopia. He has kept record of eighty (80) cases in which he has done this operation, and found that only six of them continued to increase rapidly in myopia, and four to increase slightly. In the remaining seventy cases the myopia was arrested or diminished. All the cases had, during the two years preceding the operation, grown worse, as from M 1-7 to M $\frac{1}{4}$, or from M 1-24 to M 1-10, or from M 1-12 to M 1-5, and cases of less decided increase were not noted; almost all the cases had employed prismatic or concave prismatic glasses without effect, and all the patients could do at least as much work after as before the operation, sometimes requiring aid of prismatic glasses besides.

Insufficiency of the interni renders it impossible for myopes to completely relax their accommodation—unless one eye is excluded in near work. In such cases we may under-estimate the myopia—if we judge by the reading distance. A patient may read diamond print at 7 inches, but require —5½ for distance instead of —7. After being operated on, or when wearing abducent prisms, the myopia may seem to diminish. Those who had been using —12 may then see equally well with —14 or —16, or even —18. Besides the tension of the accommodation, the muscular exertion in the effort of convergence tends to increase the protuberance of the globe, and this is further aggravated by the internal congestion which such efforts excite. The loss of muscular equilibrium include all the elements calculated to render myopia progressive.

It might be argued that it were unreasonable to expect a perfect muscular capacity for binocular vision in cases of M $\frac{1}{4}$ or $\frac{1}{2}$—the range is too great, and such cases are not to be operated on, but only those which show decided diverg-

ence for distance. In answer, it must be remembered that there are many cases which, for distance, cannot produce absolute divergence, or at most not more than 4°, which at medium distances exhibit perfect equilibrium, but only at near distances show dynamic divergence. Were the eyes emmetropic, this state of the muscles would be perfectly normal. But the subsequent history shows a different condition—the divergence becomes more positive, and at length a remarkable facility for abduction at the distance appears, amounting to prisms of 8°, 12°, 16° or more. To bring out this abductive faculty, it may be needful to let patients wear prisms (the bases inward), for a day or two, when it will be found increased sometimes as much as from 6° to 10° or from 10° to 15°.

In case of those who use but one eye for near work, and exclude the other, Prof. Graefe thinks the operation less imperative than for those who work with forced convergence, but thinks it possible to obtain comfortable binocular vision at near work, in cases where myopia is not greater than $\frac{1}{3}$ or even $\frac{1}{4}$, by means of the operation on the externi, and aided perhaps by suitable glasses, either concave prismatic, or simply prismatic.

In deciding upon the existence of dynamic divergence or feebleness and consequent strain on the interni, the mode of examination is of great importance. That a patient can sustain binocular fixation on an object brought within 2½ inches of his face, is not decisive: nor can we rely on the divergence of one eye when it is covered by a screen; even the customary test of the dot and vertical line, seen through a prism, which causes vertical diplopia, needs to be cautiously relied on. The line should be very fine and the dot large. If, when the prism, is held absolutely vertical, the patient sees only one line and two dots, we are not sure that he may not be straining his interni. An inclination of the base to the temporal side should provoke crossed images, and inclination to the nasal side homonymous images. If this occur, the convergence is really relaxed. If this do not occur when the base is shifted a little to one side or the other, but the only effect produced is to make the dots come a little nearer together and remain vertical to each other, the line not becoming doubled, the test is not conclusive. Repeat the experiment with a much finer line and larger dot, or with a figure in which the line is very short, or simply with a dot.

Even in the last case some patients have so strong a disposition to efforts of fusion that the dots will continue perpendicular when the prism is turned from side to side. In such a case, substitute a short and oblique line, or let the dot be very small.

The examination should be made quickly, and will usually succeed by using the short line and dot, or the dot alone, while the prism shall be very slightly tilted laterally. This testing applies to the ordinary working distance—it should be repeated for a great distance—and finally, at still greater distances, similar examinations should be made substituting a candle for the figure.

A second part of the trial consists in ascertaining the power of abduction for distance. If loss of balance for the near makes an operation desirable, it is fully sanctioned by the discovery of a high degree of abductive power for the distance—that is, of facultative divergence. To find this correctly the following rules are to be observed:—

1. Begin with objects held at rather short distances, because in determining the limits of binocular vision, we should begin from the region of single vision, not from that of double vision. I usually put before the patient a prism 18° (base inward), and gradually withdraw the candle until homonymous double images appear. The distance where this occurs gives an approximation of the abductive power. If this diplopia occur at five feet, repeat the trial with prism 16°; if at three feet, try with 14°. One must proceed from a near to a greater distance very gradually, else the prism chosen as the limit of the abduction will be too weak.

2. If the power of abduction seem too little in proportion to the distance at which disturbance of equilibrium occurs—that is, if less than 8°, minimum amount which justifies an operation—the patient should be made to wear abductive prisms as spectacles for a few days. Often the power of abduction will be increased from 2° to 5°.

3. It is important that the double images be kept on the horizontal position;

not the slightest deviation of the abductive prisms from the horizon can be allowed.

There are certain errors to be guarded against. 1. See that the patient is not excluding one eye from vision behind the prism. 2. The degree of abduction must be measured on a horizontal visual plane, and not with eyes turned down. In the latter case the limiting prism might be 6°, while for the horizontal plane it would be 9° or 10°. 3. The prism must not be momentarily overcome, but habitually.

The operation should be done upon the eye which most commonly diverges. If the insufficiency amount to 14° or 16°, both eyes should be operated on. To graduate the effect of the operation, the following hints may be given: A simple tenotomy done as for ordinary strabismus will be the equivalent of a prism of 16°. If the power of abduction be 14°, or less, the tenotomy must be restricted in its effect by a conjunctival suture.

The effect of the suture depends on its direction, on the amount of conjunctiva included, and on the tightness with which it is drawn. If the tenotomy is to produce an effect of 14° or 13°, the suture should be nearly vertical in its course, and take in about 1‴ of conjunctiva. To limit the effect to 10° the suture should not be quite so nearly vertical, and should include 1½‴ of conjunctiva, and pulled tightly. For an effect of 9° or 8°, the suture to be horizontal, and contain 2‴ of conjunctiva. An effect of 18° may be obtained by lateral incisions into the sub-conjunctival tissue. If more than this should be needed, as may rarely occur, a suture may be put into the conjunctiva at the inner side of the globe, a curved needle thrust in close to the caruncle, and its point brought out near the inner and upper border of the cornea, including a bridge of conjunctiva 3‴, 4‴, or 5‴.

Immediately after the operation, when the effect of anæsthesia has passed away, the muscular equilibrium must be tested. This must never be in the median line. The candle must be at least ten feet distant, and about 15° toward the side of the sound eye, and about 15° below the horizon. This may be called the place of election. In this situation there should always be perfect equilibrium immediately after the operation. If the effect is to be increased, the suture must be loosened or withdrawn—if the effect is to be abated, the suture must be tightened or take a deeper hold.

The loss of mobility is usually much greater in this operation than for true strabismus divergens. If no suture is used, the defect amounts to 2¼‴ to 3‴, or even more; after a suture of medium effect it amounts to 1‴ to 1¾‴. A defect of 2½‴ corresponds to a prism of about 14°; 1½‴ equals a prism of 8° to 9°.

The usual course of these cases is next minutely detailed, and the variations from the normal course. It is not until the third week that the final effect is reached.

The article, which has thus been greatly condensed, is worthy of the genius of its author, and cannot be justly presented without a full and literal translation.

ART. 169.—*The Extirpation of the Fibro-cartilage of the Upper Eyelids for the Cure of Certain Cases of Entropion and Trichiasis.*

By B. A. POPE, M.D., of New Orleans.

(*New York Medical Journal*, February.)

The suggestion which Dr. Pope makes, and has put in practice three times, applies to the worst and most intractable cases, in which the eyelids have atrophied and the tarsal cartilages become greatly deformed. He finds Arlt's well-known operation sufficient for most cases, but in these severe ones, after having made all the incisions and dissections of Arlt's method, he proceeds to remove the tarsal cartilage from the posterior flap, being careful not to damage the conjunctiva. This must be done piecemeal, and often with much difficulty. At the same time the upper border must be left so as not to

disturb the insertion of the levator. The wound should not be sewed up until all oozing has ceased. The posterior flap is apt to hang lower than the anterior and seem redundant, but cicatrization gradually corrects the error, and the lid is left far more supple than before. The operation is spoken of as difficult to perform, and great care must be taken that the lower edge of the outer flap do not unite too early and too high up. Sometimes this operation will have to be preceded by another for blepharophimosis.

ART. 170.—*Contributions to the Pathology of Burns of the Cornea from Lime.*

By Dr. H. DE GOUVÉA, of Rio de Janeiro, Assistant to the Ophthalmic Hospital of the University of Heidelberg.

(*Archives for Ophthalmology and Otology*, vol. i. No. 1, 208–229.)

The conclusions of this paper, which consists chiefly of an account of experiments on animals' eyes, may be condensed as follows: If the lime has remained for a short time in contact with the cornea, it not only causes destruction of more or less of its substance by the rapid withdrawal of fluid from the cornea, but it also penetrates into the substance of the tissue in the form of dust-like particles.

The cicatrix which follows not only contains lime-particles, but may present true petrifaction. The cicatricial tissue abounds in cells which anastomose with each other in every possible way; and contains nerves which terminate on the epithelium, and whose course precisely resembles the normal anatomical arrangement. If the cauterized portion of the cornea be removed, a white opacity does not result; on the contrary, the substituted tissue is transparent.

When the conjunctiva is burned, particles of lime penetrate to the episcleral tissue, and may at a later period form extensive incrustations on the sclera and adjacent muscles.

The density and persistence of the white opacity are in a great measure due to the influence of lime in the cicatrix.

It may be added that experiments with various acids utterly failed to dissolve and remove the lime, without at the same time injuring the tissues. The best mode of removing it when recent is by washing with warm water or sweet oil, and removal by instruments such as a spoon, curette, or forceps. Lime which has been slaked is far less caustic and mischievous than in the anhydrous state, hence the moderate amount of damage which usually follows from mortar being thrown into the eyes.

ART. 171.—*A Method of Corelysis.*

By Dr. G. PASSAVANT.

(*Archiv für Ophthalmologie*, Band xiv. 1, 259–264; and *New York Medical Journal*, February.)

This mode of tearing adhesions of the iris to the lens consists in making a small wound at the margin of the cornea, catching the iris with a pair of forceps, pulling it gently from its adhesions, and then withdrawing the forceps. The inner wound is far enough from the periphery of the iris to guard against entanglement, which is the chief danger; the teeth of the forceps are quite blunt. The eye must be fixed steadily during the operation, and afterwards confined with a bandage.

It is better to attack only one synechia at a time, so as to make the operation as slight as possible. A succession of adhesions may be thus broken away at intervals of a few days. No serious results have attended the operations, which have amounted to fifty or more.

The first suggestion of this proceeding was in a case of cataract, where it was desirable to loosen a synechia, and, not being attended with any harm, the

method was successfully applied to eyes in which the lens was clear. As many as four operations have been done on the same eye, and the pupil rendered circular and mobile. This little operation deserves trial, but demands very careful manipulation.

ART. 172.—*Further Remarks upon the Peripheral Linear Section for Cataract.*

By Prof. A. VON GRAEFE.

(*Archiv für Opthal.*, Band xiv. iii., 106–148, 1868.)

Professor Graefe adopts, for the section which he makes in extracting cataract, the name of peripheral linear section instead of scleral linear extraction. The reason for the name is, that the wound is situated in the sclera for scarcely half its extent, although made at the very margin of the anterior chamber. He gives it 5‴ in length, and at its middle the height of the flap, that is, the distance between the straight line, which joins its extremities and the summit of the arc, is from $\frac{1}{4}$‴ to $\frac{2}{5}$‴. The exterior parts of the wounds are all in the sclera. Some thirteen pages are devoted to the discussion of the relations of the iris to the inner surface of the wound, and the mode of doing the iridectomy. The evil effects which often follow entanglement of the iris in the wound are now pretty well known—such as iritis serosa, tendency to cyclitis, even to suppurative processes in the wound, and the ulterior ill effects of slight herniæ iridis. To avoid these mischiefs, great care must be given to the iris excision; to do it by three or four cuts of the scissors pressed down on the sclera, the angles to be cut clean, and if iris remain in the wound, to procure its return by pressing on the eye by the rubber spoon or even pushing it back by the cystitome. The tension of the globe has a great influence on this condition—and for this reason chloroform confers advantages. Graefe says that now he uses chloroform about once in twenty times. He incidentally remarks that at this time (about September, 1868), he had done this kind of extraction about eight hundred times.

The conclusion of the article relates to other cases where the peripheral section is desirable—but these are now pretty well understood.

ART. 173.—*Extraction of Double Cataracts with Closed Pupils, and Recovery of Good Sight, after Thirty Years' Total Blindness.*

By J. BERNCASTLE, L.R.C.P. Lond., and L.R.C.S. Edin.

(*Australian Medical Gazette*, October 15, 1869.)

The following case was read before the Medical Association of Victoria, 10th September, 1869:—

"Four years ago a blind beggar, constantly stationed at the corner of one of the streets of Sydney, attracted my attention; and, out of curiosity, I went into the particulars of his case, the history of which was as follows: His name was William McAndrews, aged sixty years. Had formerly been a fiddler; but having completely lost his sight for thirty years, he had ever since remained a blind beggar. On examination I found that both pupils were closed permanently to the size of a pin's head, through which small round aperture a hard cataract of a pearly color was distinctly visible, in close contact with the iris of each eye, both which, to all appearance, were quite natural, but permanently contracted, not being affected by a strong solution of atropine. He could not distinguish light from darkness during the last thirty years. When he first went blind, loss of vision came on in a few months' time in both eyes, probably from iritis, followed by opacity of the lenses. Considering the case a very interesting one, to test the possibility of restoration to sight after so long a period of total darkness, longer by twenty years than I had ever met with, I volunteered, at his request, to operate. As he was quite unable to support

himself in doors, I had to keep him for a month at my own expense, which I should have had much reason to regret, as he turned out very unthankful and intemperate, had not the success of the case amply compensated me for the trouble.

"The operation was performed in the following manner, without chloroform, on both eyes at the same time: With Beer's knife I made an incision to the extent of one-third of the lower part of the cornea, though which a large iridectomy, of about a quarter of the lower part of the iris, was made with the forceps and curved scissors; the iris had formed no adhesions, but left a fine, large, square pupil in each eye, without any pain or even tinge of blood. At this stage I applied gentle pressure with the finger on the upper part of the eyeball, when to my great delight and surprise, each cataract came out perfect, with its capsule entire. The lenses, having been imbedded, quite detached, in the aqueous humor, gave no trouble as I might have apprehended, in the extraction; since, without requiring the introduction of any instrument to lacerate the capsules, they both came away on the simple application of gentle pressure from above.

"The eyes were kept closed with strips of plaster, as is usual for a week, when, on examination, both corneal incisions were found quite healed, without any bad symptom, and in another week, on testing for sight, he could distinguish most objects around him. At the end of a month he could see everything in the room, describe minute objects, and find his way about the town by himself.

"This case is singularly interesting and instructive, as it proves that no lapse of time will prevent a successful operation for cataract, if amaurosis has not occurred from such total occlusion of light for so long a period, which I might reasonably have been led to expect here more or less. Even in such cases, I have seen the stimulus of light ultimately overcome, after a few months' time, the amaurosis that accompanied cataract with closed pupils of long standing. I have frequently operated, after from eight to twelve years of total blindness, and have found the amaurosis yield gradually to the altered condition of the eyes. In all these cases of long standing I consider it a particularly favorable symptom that the lens should escape with its capsule unbroken, a circumstance which gives to the operator great facilities, and to the patient the advantage of a clear medium suddenly, without any risk of capsular interference during convalescence. Another case in point is that of the late Dr. Baylie, of Geelong, who had been totally blind from cataract of one eye for the last 23 years, when, in 1867, I operated on him for extraction of the cataract; and half an hour after it had been removed, he could distinguish the time upon the white face of a Geneva watch."

ART. 174.—*A Method of dressing Eyes after Cataract Extraction, and other Ophthalmic Operations requiring Rest by Exclusion of Light.*

By G. R. AGNEW, M.D., of New York.

(*Transactions of American Ophthalmological Society for* 1869.)

The method consists in closing the lids, as was formerly done, by strips of isinglass-plaster, and then covering the middle portions of the face by a square patch of black silk, which is held in position by strips of plaster pasted on its edges. Stress is laid very properly on the advantages of treating patients in light rather than in dark rooms. The abandonment of pressure in dressing operated eyes is not in accordance with the recent efforts of ophthalmic surgeons; the plaster-dressing has long been practised, and, to a great extent, has given place to the flannel, or equivalent elastic bandage.

Not to remove the dressing until the expiration of five days, as the author says is his common practice, implies a confidence in the intelligent co-operation of the *vis medicatrix naturæ* with his surgical efforts, which few surgeons enjoy. A remonstrance against "the meddlesome officiousness of a peeping pathologist" would be more forcible could we know how frequently the author encounters membraniform obstructions of the pupil with or without adhesions

of the iris after extraction. Most surgeons regard it very important to secure an early dilatation of the pupil, so, as far as possible, to avoid adhesions with portions of lens matter, which, because often transparent, may be left in the eye and become a nucleus of capsulitis or iritis.

ART. 175.—*Injury of Left Eye from Foreign Body; Twenty-six years afterwards Sympathetic Inflammation in the Right; Extirpation of the Injured Eye, followed by very rapid Recovery of the other.*

Under the care of Mr. SOELBERG WELLS.

(*The Lancet*, December 18, 1869.)

The following case is of special interest in two respects: First, on account of the length of time which elapsed between the injury of the left eye and the sympathetic mischief in the other; and secondly, the great and rapid improvement which followed the excision of the injured eye.

J. K——, aged forty-two, ironfounder, applied at the Royal London Ophthalmic Hospital, Moorfields, on March 2d, 1869. The left eye had been lost twenty-six years ago, through an injury from a piece of metal. The globe is now shrunk to about a quarter of the normal size, and is very painful on pressure. The right eye remained perfectly well after the accident, until 1860, when it was attacked with iritis, for which an iridectomy was performed at that time; it being, however, deemed unadvisable to do anything to the left eye. Since the iridectomy in 1860, he has been able to follow his occupation up to last Christmas (1868), when the right eye again became inflamed, and its sight gradually failed more and more.

On March 2d, 1869, the right eye presented the following symptoms: The eye-tension is normal, the field of vision complete, but the sight so much impaired that he cannot decipher letters of No. 20 of Jaeger's test-types, but only see their black outline. The cornea is somewhat hazy, the iris inflamed, the pupil clouded, and with the ophthalmoscope, hardly any reflex could be obtained from the fundus. The left eye had become irritable and painful about three weeks before, and was very *tender to the touch*. Atropine drops and warm fomentations were prescribed; but as the condition of the right eye was but little improved, the extirpation of the left was strongly urged by Mr. Wells, and the patient submitted to its removal on March 19th. A piece of iron was found in it, firmly imbedded in a mass of exudation matter (on the inner side of the sclerotic), in the centre of a firm, fibrous cord, which appeared to be the shrunken and disorganized retina.

March 23d.—The right eye has improved so much since the extirpation of the other four days ago that the patient is now able to read words of Jaeger 16. The inflammatory symptoms have greatly subsided. The cornea and pupil are clearer. There is still, however, but little reflex from the fundus.

30th.—Reads words of Jaeger 10. The refracting media are much clearer, and the outline of the optic disk can be distinctly seen with the ophthalmoscope.

The patient ceased to attend the hospital after this date, but returned home to Yorkshire. He writes, however, in the middle of October, that his right eye is strong and well, and its sight so much improved that he is able to follow his employment as superintendent of an iron forge.

Clinical Remarks by Mr. Wells.—Injuries from foreign bodies, *e.g.*, splinters of steel, glass, gun-caps, &c., which have been lodged within the eye, are a very frequent cause of sympathetic mischief. Inflammation of the iris, ciliary body, and choroid may supervene upon the the injury, producing subsequently atrophy of the eyeball, which may shrink down to a small shrivelled stump. But even then the danger of sympathetic inflammation in the other eye, if this has hitherto escaped, is not past; for these stumps, which contain a foreign body, are a source of constant risk as long as they *remain painful to the touch* and show signs of irritability. Many years may elapse after the injury, and the wounded eye be free from all inflammation, and be perfectly quiescent, when suddenly it becomes irritable, and sympathetic irritation or inflammation

show themselves in the other. In such cases the only remedy is the immediate extirpation of the injured eyeball; indeed, it is wiser to remove it at once after the injury, if its sight is lost, or very greatly and irremediably impaired, more especially if a foreign body is lodged deeply within the eye, or the patient resides at a distance from medical aid, so that a careful watch cannot be kept over him, and the first symptoms of sympathetic mischief at once detected.

ART. 176.—*Report on the Use of Setons and other Counter-Irritants in Diseases of the Eye.*

OPINIONS OF AUTHORS.

(*British Medical Journal*, December 18, 1869.)

Mr. Morgan writes: "Counter-irritation is useful in chronic ulcer of the cornea."

Mackenzie, under the head of "treatment of strumous ophthalmia," speaks strongly of the value of blistering in intolerance of light. The most "painful, but not the least effectual position," is the nape of the neck. In general the discharge should be kept up. He says that the use of tartar emetic ointment is much more painful, and causes more disturbance than blistering. He quotes Dr. Salomon's statement, that the tartar emetic eruption is the only sure remedy for intolerance of light.

"Issues in the neck or in the arm were at one time much employed, and certainly proved beneficial in relieving symptoms of phlyctenular ophthalmia, and in preventing relapses. They were in many respects, however objectionable. I have known an issue in the arm to cause atrophy of the extremity, which continued for life. The improvements which have taken place of late years in ophthalmic medicine have rendered such means less necessary."

In the French edition, painting the eyelids with tincture of iodine is strongly recommended. The application should be made once or twice a day, according to the irritability of the patient and the effect produced. "It is rare for the intolerance of light not to have entirely disappeared in two or three days." The first use of this remedy is attributed to Furnival. M. Hays recommends, with the same end in view, the application of a stick of nitrate of silver to the eyelids.

Tyrrell (vol. i. p. 53), under the head of counter-irritation, recommends a liniment of ammonia to be rubbed in above the eye; but this is open to the objection that some of the liniment may run into the eye. He recommends also mustard-plasters; also tartar emetic plaster. The mode of applying this he describes in detail and says that this plan "affords the means of keeping up almost any degree of irritation without much suffering to the patient." Blisters, he considers, should be frequently repeated; and in children, muslin should be placed next the skin. With reference to issues or setons, he says: "I have for many years abandoned the employment of these means. I am satisfied that they accelerate recovery in some cases when placed near the affected organ; but I am also satisfied that disease cured by such means is very prone to reappear when the remedy is withdrawn; whilst the more tedious cure without such assistance is more permanent and complete." In some scrofulous children he was in the habit of employiug an issue in the arm, near the insertion of deltoid. "The counter-irritation in such cases should be continued till the age of puberty becomes manifest."

Dr. Copland quotes Mackenzie's recommendation in chronic cases of "scarifications of the eyes and lids." "In older children, blisters behind the ears or on the nucha are serviceable; but they ought to be removed in five or six hours."

Mr. Dixon recommends strongly the use of blisters in strumous ophthalmia to relieve the intolerance. "They should be about the size of a shilling, and should be removed at the end of five or six hours." He states that sometimes tincture of iodine, painted on the eyelids twice a week, will be even more efficacious than the blisters.

Bader, under the head of "strumous ophthalmia," says "the insertion of a seton into the skin of the corresponding temple hardly ever fails to remove the intolerance of light. The application of the tincture of iodine to the skin of the eyelids twice a week should be used if the seton be objected to." "The fact that the insertion of a seton alone removes within the shortest time the troublesome symptoms of most cases of vascular corneitis, provided the cause be not seated in the conjunctiva of the lids, must not be lost sight of when considering the effect of internal remedies." At page 165, are given detailed directions as to the mode of inserting a seton in the temple. It should lie in front of, and somewhat parallel with, the artery. The hair will fall down over it and hide it. "The seton should be moved to and fro once daily." "The seton is of the greatest use in opacities, pustules, and ulcers of the cornea, when accompanied by spasmodic closure of the lids, increased vascularity, lachrymation, and intolerance of light where granulations of the conjunctiva are not present simultaneously." "It may be inserted at any age, and is in hospital practice almost the sole remedy adopted for the rapid removal of the disturbances accompanying the above-mentioned corneal changes."

Macnamara recommends counter-irritation in syphilitic keratitis.

In a communication to the Clinical Society, Mr. Spencer Watson advocated strongly the use of the seton in ulcers of the cornea, and adduced four cases. He also alludes to notes of thirteen cases in which he considered benefit to have resulted.

Mr. Hulke, in the course of the discussion afterwards, deprecated the use of setons as too severe, and recommended atropine and tonics.

Mr. Wordsworth, who has we believe not published on the subject, but whose opinion will be much valued, has stated to us that he does not use setons very extensively, but that "in certain selected cases of obstinate corneal ulceration, they produce wonderfully good results."

Under the head of "chronic vascular ulcer of the cornea," Mr. Lawson advises that all applications to the eye should be discontinued for a time, and a double silk thread seton be inserted into the temple. He directs it to be put high up amongst the hair out of sight and out of the way of the branch of the temporal artery."

"The seton should be worn for three or four weeks, and may be continued longer if beneficial, and if it does not excite too great irritation."

Mr. Soelberg Wells says: "In the treatment of fascicular corneitis" (a peculiar and very rare disease), "a seton in the temple sometimes proves of much benefit." He also quotes Mr. Critchett's plan of treating vascular ulcers of the cornea by seton. About an inch of skin is to be taken up. The silk is to be moved daily. "The seton continues to discharge for two or three months —sometimes for twelve months."

Scepticism as to the advantages of counter-irritation is, we believe, at present a characteristic of the German school, and has possibly to some extent spread amongst ourselves from that source. The following quotation from Stellwag von Carion will, we believe, fairly indicate the general creed of his countrymen.

"The aim of counter-irritation is to withdraw blood from the original seat of inflammation, and to lessen lateral pressure. This can, however, last only a short time. The effect is evanescent.

"The advocates of this method of treatment may, perhaps, have observed this, and support their views on the possibility of a resolution in an antagonistic way. Unprejudiced observers have not been able to discover any such effect in eye-diseases; but the profession has been compelled to call these remedies instruments of martyrdom, which do no good in any case, but often do more harm than the original disease. All this is true of moxas, setons, and issues. Exhaustive suppuration, and even erysipelas terminating fatally are the possible consequences of the use of these agents. The pustules, from the use of tartar emetic ointment cannot be much better spoken of. Even euphorbia plaster is dangerous, especially in persons with a soft skin and in children. Extensive impetigo and eczema not unfrequently arise in consequence of counter-irritation applied behind the ear, or in the temporal region. We also very often see the

cervical glands swollen, and even suppurating, as a result of the same treatment. The ulcerated part may also be scratched by the patient and the matter brought into contact with the eye."

In the fourth volume of the *London Hospital Reports*, Mr. Hutchinson expresses the following opinion: "I have of late years formed a still higher opinion of the efficacy of setons in the treatment of certain chronic inflammations of the cornea. . . . . Chronic ulcerations of the cornea, attended by much intolerance of light, are the cases which require them. I think the degree of intolerance and irritability measures the necessity for their use. In the early stages of corneal ulcers, they are less decidedly useful than in the later ones; but my impression is that in these they often prevent a case from advancing to a worse stage. They never do harm and they cause very little pain. I have used them frequently for infants and for cachectic 'strumous' children. The result usually is that within a week the local irritability ceases, the feverishness abates, the appetite returns, and the strength begins to improve. The seton should consist of two threads of thick silk, and should be put into the temple amongst the hair, so as to leave no exposed scar. They are more decidedly useful where only one is involved than when both suffer. They do no good in syphilitic keratites, nor in cases which are accompanied by granular lids."

Art. 177.—*On Counter-Irritation in Eye Disease.*

By Furneaux Jordan, F.R.C.S.

(*Medical Press and Circular*, February 16.)

Dr. Furneaux Jordan says that counter-irritation is the great remedy for inflammatory disease of the eye. As a rule, gonorrhœal, or purulent ophthalmia or ophthalmia neonatorum may be checked instantaneously by a broad horse-shoe of a smart counter-irritation to the forehead, temple, and cheek; and acetum lyttæ, arg. nit., or iodine, may be used. The treatment is much more certain and rapid than any nitrate of silver treatment, however carefully conducted.

Art. 178.—*Epithelioma of the Lip.*

Under the care of Mr. Erichsen, at the University College Hospital.

(*The Lancet*, February 12.)

On January 26th Mr. Erichsen operated on a man who presented over the lower lip, near the right angle of the mouth, a suspicious-looking ulcer seated on an extensive and very hard base. The patient was thirty-two years of age, robust and active, and had previously had good general health. There was no broken tooth near the disease to cause irritation of the lip, and the patient had not been in the habit of smoking a clay pipe unguarded at the end by sealing-wax. Some short time before the appearance of the ulcer the man had received a blow from the fist on the lower lip.

In this case there were two points of great interest and importance. One of these bore upon the question of the nature of the disease, as the age of the patient and his healthy appearance suggested that the ulcer upon the lip might be due to syphilis rather than to any malignant affection. On inquiring into the previous history of the case, it was found that a chancre, with syphilitic disease, had been contracted about eighteen months previously. But, as was stated by Mr. Erichsen in some remarks made in the theatre, though primary syphilitic sores are not of unfrequent occurrence, an indurated ulcer during the stage of secondaries is very rarely, if ever, observed. This point, together with the fact that the patient did not present at the time of his admission any cutaneous eruption or other superficial lesion of a syphilitic nature, led Mr. Erichsen to conclude that the ulcer was due to cancroid disease or epithelioma; and, as it was extensive, and also very unsightly, an early operation for its removal from the lip was decided upon. An enlarged and indurated

gland was situated just below the ulcer, near the inferior border of the lower jaw. And the second point of interest in the case consisted in the bearing of this symptom upon the question of operative interference. Mr. Erichsen holds that excision of a cancroid growth is not contraindicated by the presence of an enlarged gland. The gland may subsequently become reduced in size, and, if the enlargement persists, can readily be removed by a second operation. In this case the ordinary operation for removal of malignant disease was performed: a large V-shaped portion of the lower lip was excised, and the raw edges were brought into contact by means of needles and twisted sutures. In operations for epithelioma it was necessary, Mr. Erichsen stated, to cut far from the disease; in the lower lip this could be done without fear, as the parts in this region are so freely movable that the edges of the wound might be brought together with ease, even after the removal of as much as half the lip. Union is generally perfected in a very short time, and on the fourth or fifth day the needles may be removed. In some concluding remarks, Mr. Erichsen asserted that, from his own experience, both in hospital and private practice, excision of epithelioma was the most satisfactory of operations for the removal of malignant disease, as this proceeding, in some instances, is not followed by a return of the disease, and in most lengthens life, and materially increases the comfort and well-being of the patient. Many cases had been under his notice in which, though the operation had been performed many years previously, there was no return of the disease. In some of these cases the knife had been used notwithstanding the presence of enlarged glands.

ART. 179.—*Operations for removal of Epithelial Cancer of the Tongue.*

(*The Lancet*, April 9.)

The following notes of three recent cases of lingual epithelioma, in all of which the disease was removed in the operating theatre, seem to be of some practical interest, as in each instance a different operation was performed. Although there is still much diversity in the practice of eminent hospital surgeons with regard to the removal of cancerous growths from the tongue, it is evident, from the clinical remarks made on these cases, that two important points in connection with the operation have been pretty well settled, through the results of extensive experience. In the first place, an immediate and rapid removal of the disease is to be preferred to the application of the ligature, which is a tedious and by no means a safe proceeding. Secondly, the écraseur, even when slowly and cautiously used, cannot be relied upon as a preventive against profuse hemorrhage. With regard to the administration of an anæsthetic during the removal of the cancer opinions still differ. In Sir William Fergusson's case, although the disease was extensive and the operation painful and severe, chloroform was not given. It is a somewhat singular fact that in three cases operated upon in the course of five weeks, all the patients were females. Mr. Paget states that a large majority of the cases of epithelial cancer occur in males; and that in 105 cases affecting parts common to both sexes, 86 were in men and 19 in women.

King's College Hospital.—Removal of large Epithelial Growth from the right side of the Tongue.—The patient was a sallow woman, fifty-seven years of age. The growth on the tongue had been noticed for two years. It formed a large nodulated and ulcerating mass, occupying nearly the whole of the right half of the tongue, with the exception of the apex and posterior part. On Saturday, March 18th, the patient was brought into the theatre. She was seated in a chair, not being placed under the influence of chloroform. Sir William Fergusson at once seized the apex of the tongue with broad-bladed and toothed forceps, drew the organ well forwards, and then removed the whole of the disease with one sweep of the knife. Profuse arterial hemorrhage followed the operation, most of which quickly ceased, one vessel only requiring ligature. Sir William, in some subsequent remarks, stated that the use of the écraseur, in his opinion, caused more pain, and was attended by quite as much

hemorrhage as that of the knife. The sharp and rapid stroke of the latter instrument was to be preferred to the slow process of strangulation produced by the écraseur. With regard to the hemorrhage attending the operation, he had frequently noticed that this, though very profuse immediately after the use of the knife, soon ceased spontaneously, and that when the surgeon had commenced to take up the bleeding arteries scarcely any would be found requiring the ligature. In the present case, although the bleeding at first seemed very copious, he waited for a short time before attempting any active means to arrest it. The flow of arterial blood in this case rapidly diminished, but one large vessel required the application of the ligature—a proceeding, according to Sir William, by no means so easy in the region of the tongue as one might at first suppose.

Guy's Hospital.—Removal of Epithelial Growth from Tongue by the Galvanic Cautery.—On Friday, March 11th, Mr. Hilton operated for the removal of a small epithelial cancer, seated on the right side of the tongue, near the apex. The patient was a woman about thirty-four years of age. The tumor was first isolated by passing three needles under its base through the healthy tissue of the tongue. Beneath these pins was fixed a hoop of platinum wire in connection with an écraseur. Junction was next made between the loop of wire and a powerful galvanic battery; and, by screwing the écraseur, the growth was removed from the tongue. Before the operation, Mr. Hilton stated that he preferred this to other methods for removing lingual cancer. The ligature was painful and tedious, caused sloughing, and subjected the patient to the risk of pyæmia. The knife acted efficaciously and rapidly; but its use was occasionally followed by dangerous hemorrhage. The écraseur gave great pain, was very slow in its action, and frequently caused as much hemorrhage as the knife. The galvanic cautery acted quickly in removing the growth, was attended with but little hemorrhage, and occasioned no very great sloughing. It could be applied very readily to the diseased parts. The galvanic cautery used in this case was the instrument invented by Middeldorpf, of Breslau. In the *Lancet* of May 1st, 1869, several instances of its use in surgery are reported from the practice of Mr. Bryant, who introduced this instrument into Guy's Hospital.

University College Hospital.—Removal of the Tongue by the Submental Operation.—The patient in this case was a woman of advanced age, who had been admitted into the hospital under the care of Mr. Erichsen. The back part of the tongue was occupied by an ulcerated epithelial growth, the right side of the organ being chiefly involved. On Wednesday, February 16th, the following operation was performed. The patient having been put thoroughly under the influence of chloroform, Regnoli's T-shaped incision was made under the chin, the first cut being made from the lower edge of the jaw, along the mesial line, to the hyoid bone, and the incisions on either side along the inferior margin of the lower maxillary bone. Two flaps, formed of skin and subjacent muscular tissue, having been dissected out, and turned outwards and downwards, and the insertions of the hyoid and lingual muscles to the lower jaw divided, the tongue was dragged downwards through the large submental opening thus formed. The chain of an écraseur was then applied around the base of the organ, and slowly tightened by intermittent movements of the screw. After the removal of the tongue there was considerable arterial hemorrhage, and a ligature had to be applied to the left lingual artery. Mr. Erichsen, after the operation, stated that, with regard to hemorrhage, the écraseur was a very uncertain instrument, being frequently followed by very little bleeding, but occasionally by a great loss.

The patient had an attack of erysipelas after the operation, but afterwards did remarkably well. On March 16th, one month after the operation, she was in a state of convalescence.

Art. 180.—*Pendulous Pedunculated Bronchocele successfully Removed.*

By George C. Blackman, M. D., Professor of Surgery in the Medical College of Ohio; Surgeon to the Cincinnati Hospital and to the Samaritan Hospital, &c.

(*American Journal of the Medical Sciences*, January.)

Dr. Blackman submits the report of an operation which he performed at the Samaritan Hospital during the past winter, believing that the plan adopted is worthy of imitation in similar cases. The details of the case were furnished to Dr. Blackman by Dr. De Courcey, one of the resident physicians of the institution.

Frederika Ruckdaschel, German, æt. thirty-six, unmarried, was admitted February 26th, 1869. She was of fair complexion and had always enjoyed good health. There was an enlargement of the thyroid gland on the right side, which had existed for fifteen years. It had never given her much annoyance, and it was only on account of the unsightly deformity that she urgently requested its removal. The tumor was of an oblong shape, about three and a half inches in length, and four inches in circumference, looking much like a banana. In the presence of the class of the Medical College of Ohio, and assisted by Dr. Glover Perrin, U.S.A., and others, I divided the integuments over the most prominent portion of the tumor, so as to completely expose the morbid growth. With the handle of the scalpel and fingers the tumor was completely isolated, with but trifling hemorrhage, until its base was reached. The whole mass was then suddenly wrenched from its connections, and for a few moments the hemorrhage, both from the superior and inferior thyroid arteries, was truly appalling. A sponge was quickly thrust into the wound, but was saturated at once, when it was withdrawn, and pressure with the fingers was made directly upon the bleeding vessels. In the course of a few minutes a sponge was again inserted to the very bottom of the wound, whilst another was applied directly over it, and retained *in situ* by means of a needle, which transfixed the lips of the wound, and the twisted sature. The hemorrhage was now arrested and the patient placed in her bed with the injunction to keep the head and neck as quiet as possible. The sponge nearest the surface was removed on the 2d of March, six days after the operation, but the other was allowed to remain until the 8th of March, the offensive odor having been corrected by a solution of carbolic acid. The wound, which was of great depth, healed with but little suppuration, and the patient left the hospital entirely cured on the 22d of March.

Dr. Perrin, who was the first to inspect the extirpated tumor, called attention at once to the fact that it embraced, not only the isthmus of the thyroid, but also the left lobe, which was somewhat atrophied. The disease was simply hypertrophy.

Art. 181.—*On Catheterism of the Larynx.*

By Dr. Weinlechner.

(Communicated to the *Gesellschaft der Aerzte of Vienna.*)

In this paper Dr. Weinlechner discusses the subject of catheterism of the larynx, that is, the introduction of tubes into the trachea, which has been frequently carried into practice by this physician in cases of croup.

Dr. Weinlechner in his first attempts at catheterism of the larynx used a simple elastic catheter, to which, by means of a thick piece of iron wire, a corresponding bend had been given, the wire being bent at its outer end to facilitate manipulation. From the catheter thus formed the wished-for benefit was not always derived, on the contrary, the dyspnœa frequently increased after its use, especially when the detached false membranes could find no exit through the spasmodically contracted glottis. The deterioration was sometimes so great that there was urgent necessity for recourse to tracheotomy. For this reason Dr. Weinlechner then made use of an obliquely truncated elastic cathe-

ter into which another smaller catheter could be passed by means of a director. Acting on the same principle, Weinlechner obtained tubes of caoutchouc, varying in thickness, and each provided with a funnel-shaped mouth-piece. Through each of these tubes, which were opened at either end, was passed during its introduction into the larynx a piece of gum-elastic catheter which projected beyond the inner end of the tube. This catheter was removed as soon as the caoutchouc tube had been passed into the interior of the windpipe. These caoutchouc tubes serve their purpose much better than those first used, because after the introduction of one of them the false membranes can be expelled, which process is accomplished with greater difficulty through tubes provided only with lateral openings.

Dr. Weinlechner next describes the proceeding of laryngeal catheterism. With refractory children the teeth are first separated by means of a bone spatula or of a wooden wedge. When the resistance is especially great Dr. Weinlechner uses his own dilator, by the aid of which the orifice of the mouth is at the same time enlarged. Whilst, when the child is refractory, the head, hands, and feet are confined, the elastic tube is passed into the trachea under the guidance of the operator's left index finger, which at the same time depresses the back of the tongue; the elastic catheter, which has served as a conductor, is then withdrawn.

The successful performance of catheterism may be known by the violence with which air passes through the tube and by the expulsion of false membranes: a feeble stream of air, however, may be observed when the catheter is passed only into the pharynx or the commencement of the œsophagus. In doubtful cases the performance of laryngeal catheterism may be determined by the introduction of the finger or by making with the catheter a lateral movement, which is followed by the larynx if the instrument has passed well beyond the glottis. Dr. Weinlechner has never observed any injury to the larynx from the catheter.

Catheterism of the larynx is, according to Dr. Weinlechner, next to tracheotomy, the most certain and most rational symptomatic method of cure in attacks of suffocation in the course of croup and diphtheria. After its performance the dyspnœa generally ceases, the lividity of the face gives way to the natural color, and the lost consciousness and perception again return. In many cases repeated laryngeal catheterism renders tracheotomy superfluous, and a cure is produced without the performance of the latter operation; in several other cases catheterism enables the surgeon to put off tracheotomy for two or three days, the respite thus obtained being of infinite importance in private practice, since in the meantime precautions may be taken to procure assistance for the operation or to move the patient to a convenient place. Laryngeal catheterism is stated to be *the natural precursor of tracheotomy;* the patients and their friends are strengthened thereby in their reliance upon mechanical means of assistance, and, when the former proceeding is no longer of use, assent more readily to the performance of the sanguinary operation. When tartar emetic—of the abuse of which one must often enough be convinced—can no longer excite reflex movements, the introduction of the caoutchouc tube will often, without causing any damage, cause much coughing and profuse expectoration. So long as there is no important dyspnœa expectoration may be promoted by sweeping out the back of the mouth with the finger covered or not by lint. That which is accomplished by tartar emetic and similar medicinal agents—viz., vomiting, and thereby cough—may be produced without any hurtful chemical action simply by this mechanical method, which has been used for a long time by accoucheurs in cases of asphyxia of newly-born infants.

Although Dr. Weinlechner has accumulated his experiences of laryngeal catheterism in the first place from cases of croup, he still has no hesitation in advising the proceeding in the following cases:—

1. For œdema of glottis either without or after preceding scarifications.
2. For threatening suffocation from profuse secretion in the lungs.
3. For asphyxia of newly-born children; air to be blown in through the tube, and the secretion to be sucked out.
4. For laryngeal spasm in children or hysterical women.

5. For foreign bodies moving up and down in the trachea, and the exit of which is prevented not so much by their size as by the productions of spasm of the glottis through the constant irritation of the vocal cords.

6. For strictures of the larynx without or after previous incision.

7. Laryngeal catheterism may, according to Dr. Weinlechner, be applied for arresting hemorrhage after the extirpation of the polypoid growths. In cases of this kind a piece of sponge is to be fastened to the outer surface of the tube.

8. Catheterism may be performed for the purpose of introducing medicinal agents into the lungs, as for instance, lime-water and lactic acid in cases of croup. Where these agents are not otherwise useful, they may yet excite cough and produce expectoration.

9. In cases of asphyxia during chloroform narcosis when elevation of the patient and dragging forward of the tongue have proved of no avail, the introduction of a tube into the larynx and the insufflation of air is to be preferred to the operation of laryngotomy.

10. If asphyxia should come on during the performance of tracheotomy and the operator not think it advisable at once and without preparation, to cut through all the soft parts, a tube may with advantage be passed into the larynx, so that whilst it remains there and the respiration is carried on regularly, the operation may be perfected more quietly and with greater care.

For the insufflation of air through the laryngeal catheter, Dr. Weinlechner recommends the surgeon to use his own breath, and to drive our the air again by compressing the patient's thorax. This method is more simple than insufflation by means of a bladder or bag, but still there is, in applying it in cases of diphtheria, a risk of infection.

Art. 182.—*A Temporary Tracheotomy.*

(*British Medical Journal*, December 25, 1869.)

In number 47 of the *Aertzliche Intelligenz-blatt* for the year 1869, Professor Nussbaum, of Munich, remarks that there are three sources of danger in operations involving the cavity of the mouth, such as the extirpation of the superior maxilla, or of tumors springing from the base of the cranium—namely, 1. Suffocation from blood flowing into the larynx; 2. Pneumonia from small coagula of blood in the lungs; or 3. Injury to the throat, and subsequently deep-seated abscesses in the cervical fascia, from the assiduous mopping-up of the blood during the operation. To obviate these dangers, he proposes a preliminary tracheotomy, and narrates a case in which he removed a large tumor (sarcoma) of the upper jaw, which had pushed the eye upwards, and extended deeply backwards and downwards into the throat. The patient was a country girl, aged twenty, much weakened by repeated hemorrhages. He first opened the trachea, and introduced a silver canula, continued the inhalation of chloroform through this, closed the glottis and pharynx with four thicknesses of oiled linen, proceeded to remove the whole upper jaw and tumor, and then applied the actual cautery. Having washed out the mouth, and plugged the cavity left by the operation, he took away the oiled lint and the trachea-tube, and closed both wounds. The patient breathed freely through the normal channel, and the whole operation seems to have been a complete success. Not a drop of blood entered the throat; and the operator was free from all fear of his patient's dying of suffocation.

Art. 183.—*On Ulceration of the Internal Carotid Artery in Caries of the Petrous Portion of the Temporal Bone.*

By M. Jacques Jolly, of Paris.

(*Archives Générales de Médecine*, Mars, 1870.)

This memoir forms a complement to one published by M. Jolly in the year 1866. Four fresh cases have been collected in which the carotid artery was perforated in consequence of caries of the temporal bone. A fifth case is given of hemorrhage from the middle meningeal artery through ulceration.

M. Jolly offers some remarks concerning the mode of the perforation of the carotid artery in caries of the petrous portion of temporal bone. In his former memoir he suggested two kinds of mechanism. In one he thought that a movable, irregularly-shaped osseous lamella, with edges more or less sharp, might be pushed with violence against the artery during some effort on the part of the patient, and that the walls of the vessel, even when healthy, might be thus perforated mechanically. This, however, he believed to be quite an exceptional cause.

This view was afterwards combated by M. Duplay, whose reasons seemed to be so conclusive, that M. Jolly did not hesitate to abandon it. The second mode of perforation, according to M. Jolly's original views, consisted in the influence exerted by a small sequestrum striking against the walls of that part of the artery retained in the osseous canal. M. Jolly does not deny the existence of inflammation and ulceration, but thinks that because the carotid more than any other artery is the seat of those processes there is some special cause which excites them. This cause, he states, is the presence of a sequestrum, which, by its continuous pressure upon an artery which cannot escape from it, imprisoned as it is in an osseous canal, and by the friction it performs at each wave of blood, wears away and lacerates the arterial walls with which it is in contact. The all-powerful influence of this cause is proved by the fact that the inflammatory process, far from extending to every part of the artery which is bathed in pus, remains limited to a very restricted part which in most cases answers exactly to the dimensions of the sequestrum in a case reported by Santesson. The wall of the internal carotid artery, at its angle of flexion, was reduced in thickness to such an extent that it was readily torn through on the introduction of a sound.

Santesson's case, M. Jolly points out, is very important, in that it shows that the middle meningeal or one of its branches may become ulcerated and give rise to hemorrhage equal in importance and gravity to that proceeding from perforation of the internal carotid. Hence it is impossible to recognize with certainty from which of these two arteries the bleeding takes place, so that the surgeon should always have under his notice the possibility of an error and be guided thereby in his choice of the artery for deligation.

M. Jolly concludes his memoir with the following remarks on treatment:—

"I have established, in opposition to the opinion of MM. Baizeau and Genouville, and basing my opinion on the relative success obtained by M. Broca, that the surgeon ought as an extreme measure to have recourse to ligature of either the common or the internal carotid.

"So far from modifying my convictions on this point I hold that they have been confirmed by the cases related in this contribution. In two out of three cases the common carotid was tied, and though in one case there was complete failure and in another the hemorrhage persisted and carried off the patient in spite of deligation of both carotids, the third case, on the contrary, in the practice of Mr. Syme, was an example of a thorough cure. Although after the common carotid had been tied on the injured side, the hemorrhage returned in considerable amount on three occasions, it was at last arrested, and in three months the patient was quite well."

To these three cases is added another successful one previously reported by M. Jolly. The application of ligature of the common carotid was thus followed by success in two instances, by failure in the remaining two. This proportion, M. Jolly thinks, though not very satisfactory, should still justify, and even encourage the surgeon to practise deligation.

"But although with regard to this point," M. Jolly goes on to state, "my present opinions are the same as they were in 1866, and I am still persuaded that when the surgeon has acquired certainty, or, at least, a very great presumption that an arterial lesion exists, he should proceed to the ligature of the artery furnishing the blood, I do not think the same as to the choice of the vessel.

"In 1866, although I did not pronounce absolutely as to which of the two carotids should be obliterated, I evidently favored the internal carotid, the constant source in my opinion at that time of the hemorrhage. But at the present

day I think quite the contrary, and hold that it is the common carotid which ought to be tied, not indeed through preference, but through necessity, in all cases of arterial hemorrhage from the ear.

"The reason of this exclusive choice consists in the fact that the middle meningeal artery," as in one of the reported cases in M. Jolly's memoir, "may be perforated, and that the discharge of blood which results from a wound of this vessel cannot be distinguished from that caused by a lesion of the internal carotid artery. It is necessary then in practising deligation to choose the vessel which answers to both indications, that which in one as in the other case will bring the hemorrhage to a termination, whether it come from the internal or the external carotid; in short, it is to the common carotid that the surgeon should always apply the ligature. Indeed, this is the artery that has always been tied in cases of pure hemorrhage from the ear, and in three cases at least the surgeons thought of none other whilst discussing the question of an operation."

(B) CONCERNING THE TRUNK.

ART. 184.—*Clinical Lecture on the Treatment of Stricture.*

By JAMES PAGET, F.R.S., D.C.L.

(*British Medical Journal*, April 2.)

Mr. Paget lectured on two cases of retention of urine with slight stricture, in which the patients had been treated in the first instance by warm bath, laudanum, and rest, without catheterism, the last measure having been reserved until many days after the retention was relieved, and employed for the treatment of the purely organic stricture only. In one of the cases catheterism was attempted on admission, for a short time only, but unsuccessfully; this man had had incontinence of urine for six weeks before he got retention, and yet, after three weeks' treatment, by rest, alkalies, and plain diet, Mr. Paget was able to pass No. 9 without any difficulty into his bladder.

In the other case retention was complicated by a perineal abscess, which was opened. The man was treated without any attempt at catheterism until the third week, when a single unsuccessful attempt was made; but a few days later Mr. Paget was able to pass No. 6 at once into the bladder. Mr. Paget dilated on the advantages of rest, the warm bath, and opium, in relieving retention, and on the continuance of rest with alkaline medicines and unstimulating diet for the subsequent complete removal of spasm, and of that swelling of the urethral mucous membrane which may not only produce retention, but, as in the first patient mentioned, may cause symptoms closely simulating those of the worst forms of organic stricture. The chronic congestion of the urethral mucous membrane, which probably existed in that patient and caused incontinence, was compared by the lecturer with chronic conjunctivitis and chronic swelling of the nasal mucous membrane.

Mr. Paget considered that the perineal abscess, which formed in the second patient, was probably the result of inflammation in strictures contiguous to the urethra, but without any extravasation of urine. Many of the perineal abscesses formed in connection with retention were produced in this way, and not, as is commonly taught, by ulceration of the urethra and localized extravasation.

Mr. Paget went on to remark on the morbid sympathies of the urethra, sympathies which were found in no other mucous tract, and were quite peculiar to that over which the urine passed from the bladder. The first of these peculiar manifestations of sympathy with distant parts was the *syncope* which occasionally follows the passage of a catheter, the next was *epileptiform convulsion* from the same cause. Mr. Paget remarked that these two results never happened unless the patient were standing up, just as the same phenomena after excessive blood-letting were noticed only when the patient was in the erect position. Thirdly, *rigor* following the passage of instruments into the bladder was mentioned; this result was commonest in patients who had never been

catheterized before, and, unlike the other two phenomena, did not come on until water was passed for the first time after the use of the catheter. Rigor after catheterism was said to be commonest in persons who had ague, or who had lived in tropical countries, and the phenomena of the shivering fit were described as corresponding exactly with the course of an attack of ague. The rigor might often be prevented by the administration of brandy and water or other alcoholic stimulant immediately after the operation; and Mr. Paget spoke in high terms of Sir B. Brodie's practice in this respect.

In referring to the occasionally very dangerous character of these shivering fits, Mr. Paget mentioned that he had known death to follow simply sounding for stone in no less than six cases. As a rule, however, a rigor occurring soon after lithotrity, lithotomy, or the passage of a catheter, was not a dangerous sign. This brought the lecturer to his fourth peculiar sequence of catheterism and lithotrity, viz., the occasional occurrence of pyæmia, after a rigor, apparently from simple irritation of the urethra, and without any injury to its structure or effusion of urine. Mr. Paget then referred to another of these curious relations between the urethra and distant parts, *urethral rheumatism* (including the so-called gonorrhœal rheumatism), an affection which, if it could not be described as pyæmic, yet certainly presented many points of close resemblance to pyæmia.

Mr. Paget was of opinion that any inflammation of the urethra, whether contagious or not, might be followed by the swelling and effusion into the joints which characterizes urethral rheumatism. Lastly, Mr. Paget mentioned the connection which he believed to exist between certain cases of *sclerotitis*, inflammation of the urethra, and effusion into joints, inclining to the belief that patients in whom these conditions coexisted were often to be described as *gouty* rather than rheumatic.

ART. 185.—*Observations on Lithotomy, and on Certain Cases of Enlarged Prostate.*

By Sir WILLIAM FERGUSSON, Bart., F.R.S., Serjeant-Surgeon to the Queen.

(*The Lancet*, January 1.)

In a very able paper on the above subject Sir William Fergusson records some points which have been little noticed, if at all, by the generality of writers on this absorbing subject. "I am the more induced to do so," Sir William writes, "because I have reason to think that some observation on lithotomy in children, made by me in my lectures at the College of Surgeons in 1864, have had good effect. What I then stated was the result of much thought and considerable individual experience. The distance of the neck of the bladder from the perineum, the ease with which the membranous portion of the urethra may be torn across, and the facility with which the prostate and neck of the bladder may be thereafter pushed upwards and backwards, were particularly dwelt upon; and a seemingly correct explanation, as I hope, was given of the frequency of not finding the stone in this operation, as also regarding the conclusion that stone had not actually been present in such cases—the real fact being that the operator had failed to reach the bladder. More mistakes of this kind have been made on children than on adults, and experience has convinced me that the difficulties and mechanical dangers are actually greater in children than in the adult. On the occasion referred to I pointed out the common error of supposing that because lithotomy is comparatively so successful in its results in children, it is easy of performance in similar proportion. Such, however, is, in my opinion, not the case; and youth, with the strong natural disposition to reparation of wounds in early years, are the principal reasons for the happy results of this operation on patients under the age of puberty.

"In my experience I have learned something more about the prostate than is usually stated in books about lithotomy, or about that organ itself. Operative surgery and surgical pathology have been largely taught by the pure

anatomist, who has had little experience in either subject; and there has been on that account, in my estimation, a large amount of questionable doctrine laid down for the guidance of the practical surgeon. He may, indeed, be years in practice before he can, by thinking for himself, get rid of what I am often disposed to call dissecting-room surgery. I look back with amazement at the amount of writing and so-called instruction as to the limit or want of limit of incisions in the prostate in lithotomy. The healthy prostate, such as it may be considered between puberty and fifty years of age, has usually been taken as the standard of size. In accordance with theories of the teacher or author, a limited incision has been the favorite with one, whilst a free wound through the whole substance has been inculcated by the other. Yet lithotomy is more rarely required during the period referred to than at an earlier or later date. In two-thirds of the cases for this operation the prostate is either below or above the size most generally indicated in these speculations. In early years there can be no doubt that it is either cut or torn throughout; but in advanced years it may be doubted if it ever is either torn or divided entirely, excepting in rare instances, even by those who profess to use the knife freely in this part of the operation. Without proposing at present to discuss the question of free or limited incisions, I am desirous of drawing attention to the circumstance that the lithotomist often deals with the prostate in old men under circumstances very different from those under which it is seen by the pathologist or treated in ordinary practice. The pathologist and practitioner usually look upon the enlargement as a whole, or perhaps with reference to the special enlargement of the middle lobe. The one looks to the appearance of the enlarged parts; the other thinks of the effects of these upon micturition, or how, where there is much irritation associated with the condition, he can best and most readily give his patient relief by catheter or otherwise.

"Now, although most formidable cases of stone are often met with in old age without any marked enlargement or change in the prostate, it frequently happens that the lithotomist finds the gland enlarged, and in the ordinary lateral operation his knife, finger, and instruments, pass through the parts where enlargement is almost invariably greatest—viz., the lateral lobe. In the normal state of the prostate, the firm fibrous structure, as usually seen by the anatomist, can be readily appreciated. Even when there is enlargement, the firm fibrous character may still seem predominant. But in many instances, as the forefinger passes towards the bladder, the sensation is as if its point glided through several rounded bodies in the substance of the gland, which are but slenderly in contact with each other. It is seldom that the pathologist takes this route in examining or displaying the gland, and so perhaps little has been said about this condition. For my own part, although, like others, familiar with the condition, I had never heard any reference to it in association with lithotomy, and it was not until I had some considerable experience in this operation that I perceived the great importance of the fortuitous combination. Repeatedly I had been conscious, during a succession of operations, of feeling, and often too of seeing, this condition. The feeling may be easily understood, but seeing can only be appreciated after explanation. When the stone is being extracted, within the grasp of the forceps, there is often considerable resistance, even when the knife and forefinger have been freely used to give ready passage to and from the bladder. In some instances the stone, whilst all but through the wound, seems to be held *in situ*. If at this time the operator looks carefully, particularly on pushing the skin and margin of the wound a little aside, he will see some tissue or substance between the blades in the space between the hinge and stone. With a slight pressure of the point of the finger this object will disappear from between the blades, and extraction will then seem comparatively easy. This is in reality one or more of the lobules referred to. It has not been grasped between the blades in seizing the stone, but has slipped into the space, as the forceps and stone have been drawn outwards. On such occasions I was glad to let the subject remain without further notice, and I confess to the fear that by referring specially to what I had noticed I might be deemed to have used unwarrantable liberties with the prostate. After repeated experience of this sort, it occurred to me that the propriety of leaving

such loosened masses was questionable; and at last, on a tempting occasion, I seized, after the extraction, one or more of these bodies, and partly tore and partly cut them away. To my great delight no evil followed, and the patient, about seventy-five years old, made a most satisfactory recovery, having no special symptoms afterwards.

"In 1848 I exhibited specimens of this kind at the Pathological Society of London, and not long after heard whispers about rough and improper proceedings in lithotomy—coming chiefly, or rather solely, from those who had rarely, if ever, performed the operation. Criticism of the kind was almost enough to deter from similar pathological information, but I have since followed the practice repeatedly whenever it seemed to me needful, and I have never had occasion to regret doing so. The subject has recently been brought under my notice in a peculiarly interesting manner. During lithotomy on a patient nearly eighty years of age, in whose case my anxiety was special, I recognized this condition of the prostate. There was no peculiarity in the operation, but in extraction I recognized the hitch above referred to. When the stone was extracted I turned my attention to the lower part of the prostate, and found it so loose already that I accomplished its enucleation with the point of the forefinger of my left hand, with as much readiness almost as if it had been a stone lying loose in the left lobe of the prostate. The circumstances were peculiar, perhaps unprecedented in the history of lithotomy, and I drew the special attention of a professional brother, a near relation of the patient, who was present, to the circumstance. I felt convinced at the time that, whatever might be the result, I did the best for the patient, although his condition was critical in the extreme, and the operation was deemed a last resource. His recovery was slow, owing to previous exhaustion, but there never has been any irritation in the prostate. I do not feel at liberty to mention all the features and history of this case, but I pledge my word and name, for what may be their value, that it is worthy of being a precedent case.

"The thought of being of service to any future sufferer, or any professional brother, induces me to put such experience on record in a manner more forcible than heretofore. The interests of patients and of surgeons are alike involved in these observations; and there are points or questions connected with them which, in my estimation, deserve attention from all engaged in the department of surgery to which the above remarks relate. In many cases of stone in the bladder the distress of the patient is plainly attributable to this cause; but occasionally the presence of stone produces so little irritation that its discovery is a matter almost of chance. Often, however, enlargement of the prostate gives rise to most, perhaps all, of the symptoms and sufferings of stone. When stone is combined with enlarged prostate, who can say from which cause the distress is greatest? So if it happens that the surgeon is called upon to relieve his patient from stone, and finds an enlarged prostate at the same time, why should he not, in extracting the stone, when it seems in his power, as in the cases above referred to, take away a superfluous portion of the prostate at the same time? The masses alluded to seem like adenoid tumors in the original substance of the prostate; their removal may be deemed a relief, and a possible solution of the distress of enlarged prostate; and, as the entire wound in lithotomy most generally closes by granulation, the very removal of such well-nigh isolated masses will leave less surface for inflammation, suppuration, and granulation. If allowed to remain, it is not likely that they will adhere to their former site by immediate union; if they do not, a larger surface must be exposed to the irritating influence of urine, and a double suppurating and granulating surface must be the result.

"But, without speculating on such matters, I hasten to enunciate the conclusion at which this paper aims. There is a certain timidity in the practice of surgery which may in many respects be deemed becoming; and precedents are often as much prized among us as with practitioners in law. There would, however, be no progress unless some one from time to time stepped out of the accredited course; and so, with such authority as I can humbly claim, I have thus ventured to put on record what some of my professional brethren may have hesitated to do, from a fear that they have been guilty, in their operations,

of perpetrating some rough mechanism not in accordance with that nicety of manipulation which is thought so essential in the performance of the master handiwork in surgery—lithotomy."

Art. 186.—*Lithotrity and Lithotomy.*

By Holmes Coote, F.R.C.S., Surgeon to St. Bartholemew's Hospital.

(*The Lancet*, May 12.)

In speaking of the relative merits of the two operations of lithotrity and lithotomy, Mr. Coote sees no reason to alter the opinion which he long ago expressed. The former is suited to cases of small calculi, such as may be crushed in one or two sittings. It is especially well fitted for men of full, gouty habit, and in middle life, in whom such calculi may exist in numbers in the kidneys; but when we extend the sphere of this operation to species of larger and harder calculi, patients are exposed to many dangers, especially to that of cystitis, and of even more lasting evil—that of the gradual destruction of the calculus after much suffering, without any relief to the symptoms, owing to changes in the walls of the bladder.

Lithotomy, properly performed, is not in itself so serious an operation as some authors have made it. The last twenty-two cases performed at St. Bartholemew's Hospital have been without exception successful. In unfortunately fatal cases the cause of death is not hemorrhage, or very rarely so. Mr. Coote cannot recall a case of death from hemorrhage at St. Bartholomew's Hospital during the whole period that he has been attached to that institution. Neither is extravasation of urine a common cause of death with good operators. But when the kidneys have become diseased, the patient's power of recovery seems wonderfully diminished; and inflammation of the peritoneum is an event which the surgeon justly holds in dread.

Art. 187.—*On the Recurrence of Vesical Calculus.*

By Walter Coulson, F.R.C.S.

(*British Medical Journal* March 26.)

At a meeting of the Medical Society of London, held February 28, Mr. Walter Coulson read a paper on the recurrence of vesical calculus. Recurrence might occur without reference to the kind of operation; after lithotomy, or after lithotrity. The subject of the recurrence of vesical calculus after operation appeared to have received little attention from English writers. By recurrence was meant the formation of an entirely new stone. The general proportion of recurrence was said to be one in every six cases. It might take place after lithotomy as well as after lithotrity. It was more frequent after the latter operation. The rapidity with which stone was re-formed after lithotomy was something remarkable. The surgeon should pay great attention to the state of the bladder after lithotrity whenever symptoms of vesical disease persisted or supervened. The symptoms usually observed were those of chronic or sub-acute cystitis. The mechanical removal of the stone generally mitigated the condition of the bladder, but did not cure it altogether. The urine was viscid with ropy mucus, and sometimes contained pus or blood. The chief points to be attended to were, first, to take care to empty the bladder daily; and secondly, to modify the disordered condition of the vesical mucous membrane. To attain this latter object, Mr. Coulson had found nothing better than washing out the bladder daily with lukewarm water. The following case illustrated the persistence of calculous symptoms after the complete removal of the stone. A gentleman, aged forty, consulted Mr. Coulson in November, 1863. For eighteen months he had suffered severely from vesical irritation. A small phosphatic calculus was found, and was removed in two sittings without any difficulty. The symptoms of vesical irritation soon returned, and continued with their former intensity. They were but slightly modified by treatment,

but great relief was obtained by washing out the bladder with lukewarm water. Sir Henry Thomas carefully examined the bladder four different times without detecting any fragment. The patient was also subsequently examined by Mr. Syme with a like result. In 1865 no improvement had been made; yet the washing out of the bladder still continued to give great temporary relief. The urine contained mucus, pus, and blood, with innumerable crystals of the triple phosphates. Three years afterwards, the patient had gradually and completely recovered, without undergoing any operation. A discussion followed, in which Messrs. Weeden Cooke, Henry Smith, the President, Dr. Broadbent, and others, took part.

ART.—188. *On the Symptomatic Reflex Neuralgiæ of Gonorrhœal Orchi-Epididymitis.*

By M. CHARLES MAURIAC.

(*Gazette Médicale de Paris*, No. 19, 1870.)

The following conclusions are given at the terminatian of a long series of articles by M. Mauriac on neuralgic symptoms associated with gonorrhœal epididymitis:—

1. In gonorrhœal orchi-epididymitis two kinds of pain exist: (*a*) local and direct pains due to the inflammatory processes in the epididymis and testicle; (*b*) *reflected sympathetic, or remote pains* constituting *reflex neuralgiæ*.

2. The reflex neuralgic pains may be dull or lancinating, continuous or paroxysmal; they are manifested in the form of irregularly recurrent attacks. Far from being excited and exasperated by the touch, like inflammatory pains, they are, on the contrary, in the majority of instances, relieved by pressure, and occur spontaneously. They change their situation; and in their mobility occupy successively or simultaneously, not only various parts of the same nerve, but also one or more nerve branches belonging to the same plexus or to several.

3. They do not in their course present the regularity of the organic process to which they owe their origin; they apparently owe to a kind of autonomy which they have acquired, in spite of their original subordination to a fixed lesion, the privilege of manifesting themselves in a peculiar manner—that is to say, with an unexpected irregularity in their course.

4. The *morbid impression* which gives rise to these reflex neuralgiæ, sets out from the testicle, and extends to the spinal cord.

5. This *incident* impression may or may not be perceptible at its starting-point. When it has arrived at the nervous centre, it produces pathological changes of the functional modality of the nerve-cells. It results from this that along the course of the sensory nerves in communication with these nerve-cells, painful sensations are felt which are produced by virtue of the law of the *excentricity of sensory phenomena*, or of the *peripherism of sensations*.

6. The laws of motor-reflex action formulated by Pflugel, do not apply rigorously to reflex sensation. For instance, painful irradiation reflected by nerve centres may be produced below the point of incidence of the initial morbid impression; it is generally diffused without intermediate obstruction, and as if impatient of all control. With these there is no central point like the bulb for reflex movements, towards which may be propagated from below upwards, and from before backwards, the central impressions produced by reflex sensations. The law of the *generalization of reflex movements* cannot be applied to the *excito-sensory power*.

This power spread in a diffused manner throughout the whole of the gray substance of the nervous centres, is apparently not concentrated in a circumscribed part.

7. In orchi-epididymitis with reflex neuralgiæ, the reflex action may be produced by the side of the viscera by means of the spinal cord, or the ganglia of the sympathetic.

8. The *intensity* of the reflected pain bears no relation to the intensity of the local inflammatory pain. This latter symptom is often insignificant, or has

disappeared entirely, when horrible reflex neuralgiæ are manifested at a seat more or less remote from the morbid focus.

9. The radiating pains are diminished in intensity when the reflex action is affected in nerves the origin of which is remote from that of the nerves proceeding to the diseased testicle.

10. Muscular contraction frequently exasperates the reflex pains; but the latter, in their turn, frequently excite morbid and involuntary movements in muscles. With this abnormal conflict between the *virtually* painful nerves of sensation and the motor nerves are associated convulsive twitchings, cramp, contractions, and loss of muscular power, observed in some cases of orchi-epididymitis remarkable for the violence of the reflex pains.

11. When the reflex irradiation excited by a morbid impression setting out from the testicle, acts upon the plexuses of the great sympathetic, there may be produced a collection of phenomena much more complicated than simple pain, such as abnormal peristaltic and anti-peristaltic movements of the digestive tube, gastro-hepatic pains, plenitude or oppression of the general circulation, and consequent corresponding modifications of caloricity.

12. The symptomatic reflex neuralgiæ of gonorrhœal orchi-epididymitis are habitually unilateral, and selected on the same side as the affected testicle; but they are sometimes bilateral, or form a girdle, and are then constituted by a double lumbo-abdominal neuralgia.

13. *Rachialgia* is the most frequent of the reflex irradiations of orchi-epididymitis; it has a double focus: one, superior or *renal*, the other, inferior or *sacro-sciatic*.

14. Next comes the *lumbo-abdominal neuralgia* with three foci; the *inferior lumbar*, the *hypogastric*, and the *inguinal*.

15. The sympathetic pains which are propagated in the lower limb of the affected side may be divided into two groups: *an anterior or crural group, a posterior or sciatic group.*

16. In some cases the pain invades the *thoracic walls;* and is manifested there, sometimes in the form of vague aching, sometimes, and more frequently, at a fixed point from which it radiates along the course of the intercostal nerves.

17. *The symptomatic reflex visceralgic pains* of gonorrhœal orchi-epididymitis present three foci; *the superior or renal rachialgic focus*, the *deep hypogastric focus*, and the *epigastric focus.*

18. In the pathogeny of the reflex neuralgiæ symptomatic of orchi-epididymitis, the first part is taken by the *affection of the testicle*, the second by the *vaginitis*, and the third by the *inflammation of the cord.*

19. *Neuralgia of the testicle*, the *irritable testicle*, is in the majority of cases caused by an inflammatory affection localized in the testicular apparatus, which has become chronic, and has passed unperceived, but which may, at any given moment, be complicated by reflex neuralgia.

20. Inflammation of the testicle, or of its appendages, possesses in a remarkable degree the property of diminishing rapidly the quantity of red blood-corpuscles. The aptitude for patients to become anæmic under the influence of orchi-epididymitis varies according to age; it is the greater as the subject is less aged.

Art. 189.—*Recto-Vesical Lithotomy.*

By Louis Bauer, M.D.

(*St. Louis Medical and Surgical Journal*, No. 1, 1870; and *Edinburgh Medical Journal*, April.)

Dr. Louis Bauer reports the following interesting case at considerable length:—

Mr. T., æt. twenty-six, was found to have a stone in his bladder. In July, 1859, Dr. Bauer, assisted by Dr. Marion Sims and Dr. Thomas Emmet, performed the following operation:—

The rectum was kept open by Sims's larger speculum. The contours of the prostate gland were well exposed; and by the guide of the left index finger, I transfixed the recto-vesical septum immediately behind and at the middle of the base of the organ. This part of the operation was performed by a double-edged scalpel. The blade being about half an inch in width, the wound of necessity could not have been larger. The loss of blood was trifling, and no pain was experienced by the patient, who had not taken chloroform. In fact, he stated that the first intimation he had received of the progress of the operation had been from the finger in the bladder. The extraction of the calculus was effected by a common polypus forceps without impediment. The elasticity of the recto-vesical septum obviously exceeded the requirements of the case.

Dr. Sims acceded to my request in closing the wound with silver wire sutures, and so effectually did he accomplish the task that not a drop of urine escaped during the entire after-treatment.

The operation occupied but a short time, and the patient suffered only from the fatiguing position An elastic catheter was put in the bladder and opium given.

In the next six days his urine was drawn off by catheter. On the seventh he made it *per vias naturales*. On the eighth all the stitches were removed, and the wound was found to be quite healed; and next day he was able to drive twenty miles. The calculus when dried weighed 720 grains.

Dr. Bauer also reports the case of a calculus weighing 646 grains, which he removed from the bladder of a female by the vesico-vaginal operation with similar success.

Art. 190.—*Clinical Lecture on Hernia.*

By James Paget, F.R.S.

(*British Medical Journal*, Jan. 29.)

Mr. Paget chose the subject of hernia for his lecture, as he had lately under care several cases which presented features of special interest.

The first case to which Mr. Paget referred was that of a woman who, at an advanced period of pregnancy, had become the subject of an acute strangulated inguinal hernia of large size. The gut rapidly became gangrenous, and was therefore not returned at the operation; and about fourteen days afterwards a piece of small intestine, eight inches long, came away by the wound. She began to pass fecal matter *per rectum* about three weeks after the operation, and, at the present time (Jan.), very little fecal matter passes from the wound, showing that the continuity of the intestinal canal has been completely restored. She aborted soon after the operation. Mr. Paget considered that this case well illustrated the importance of disturbing the intestine as little as possible at the seat of constriction in cases where the strangulated portion is gangrenous; and gave as the rule for practice, that the constriction should be just sufficiently divided to enable the finger to pass into the intestinal canal above the seat of stricture, in both directions from an opening made in the strangulated portion, so as to make sure that feces will pass freely from the wound.

Mr. Paget next made some remarks on the subject of congenital hernia and undescended testis in connection with a case of this sort upon which he had lately operated. The patient, a young man, had never suffered from hernia before, and the rupture for which he was admitted came on suddenly after a strain; he was admitted four days after strangulation had set in, and two days after the bowels had ceased to act. The testicle on the ruptured side was very small and lay in the inguinal canal.

On the subject of the condition of undescended testes, Mr. Paget remarked that they are generally imperfect and sometimes very small. In speaking of the liability of these organs to be complicated with hernia, Mr. Paget said that this liability is *nil* when the testis is completely within the abdomen, but that if the organ be situated in any part of the inguinal canal, the patient lives in constant danger of hernia. Allusion has been made to certain rare cases in which persons with undescended testes occasionally suffer from attacks of obstruction, the symptoms of which closely resemble those of strangulated hernia, but no

hernia can be made out. Mr. Paget considers that, in such cases, a small portion of the gut does get strangulated for the time being, but that it is so small as to escape detection.

Particular attention was drawn to the possibility of confusing an inflamed retained testis with a strangulated hernia, and the necessity of always examining the scrotum in every case of hernia in a male was insisted on. Apart, however, from the absence of a testis from the scrotum, Mr. Paget considers that the character of the vomiting is a great help to diagnosis in these cases: in *hernia*, the vomiting is free, but there is comparatively little nausea, while the nausea in cases of *inflamed undescended testis* is constant, and the vomiting comparatively slight.

Mr. Paget drew attention to the important fact, that a congenital hernia, when of large size, passes through the aponeurosis of the external oblique, instead of passing downwards into the scrotum, as in ordinary cases, so that in operating for congenital hernia, the surgeon often comes to the hernial sac immediately beneath the superficial fascia.

Treatment of Reducible Hernia complicated with Undescended Testicle.—Mr. Paget advised that a truss should be worn for a number of years when the position of the testis will allow it—viz., when this organ is at, or immediately outside, the external ring; but that no truss should be worn when the testis lies at the internal ring, for it may descend lower; nor when it is situated midway between the external and internal rings, for then the pressure of a truss would be insupportable. Mr. Paget mentioned five years as the smallest period after the last descent of the hernia during which a truss should be worn; but alluded to cases in which a congenital hernia had reappeared after much longer intervals than the time specified, and thought it advisable that, if possible, the truss should be worn as a permanency.

Mr. Paget made a few remarks on the case of umbilical hernia in a boy on which he had operated. This patient has died since the operation, but no post-mortem examination has been allowed. He had suffered severely from rheumatic fever, and subsequently from ascites; and Mr. Paget remarked that some such history generally preceded the appearance of umbilical hernia in young persons, the hernia usually appearing after the relief of the ascites has left the abdominal walls weakened and lax; and in connection with this subject, attention was called to a museum specimen (taken from the dissecting-room, and without history), in which four herniæ existed—two inguinal and two femoral—probably induced by some cause of distension acting at the points naturally weakest.

Art. 191.—*Large Femoral Hernia in a Male.*[1]

By John M. Bryan, M.D., F.R.C.S. Eng., Northampton.

(*British Medical Journal*, December 18, 1869.)

The following case of femoral hernia having several points, perhaps somewhat uncommon, the author has thought the same might be of interest:—

"Mr. J. W., aged thirty-four, had had femoral hernia for about twelve or fourteen years. About that time since, I first saw him with it in a strangulated state. I succeeded in reducing by the taxis and ordinary means, it then being only about the size of a pigeon's or hen's egg. I fitted a truss, with full directions to him never to be without it. Since that time I had not examined nor attended him until the 31st July last, when I was suddenly fetched at 11 P.M., and found him with a tumor quite of the size of a man's fist, and strangulated. I tried the taxis for some time, and placed him on his back with the shoulders and knees elevated, and the thigh of the affected side flexed upon the abdomen, so that the crural arch should be rendered as free as possible from all tension. I used chloroform freely; but there being difficulty without an assistant, I sent for a medical friend in the town, one of our hospital surgeons. On his arrival

---

[1] Read before the South Midland Branch of the British Medical Association.

we placed our patient thoroughly under chloroform for about two hours, with the tongue guarded and held out of the mouth by a spring-forceps. We placed him in a completely sloping position, with the head downwards on an inclined plane, and persisted in the taxis without avail. We then replaced him in bed with a bag of ice well applied over the part, gave him a strong opiate, also an injection of gruel, and left him at 3 A.M., apparently not much the worse for our manipulations. He had no sickness. At 10 A.M. we again saw him. The tumor was perhaps slightly relaxed from its previously tense state. The taxis was again used a little without avail. I then gave him a hypodermic injection of morphia, bandaged the swelling somewhat tightly with a flannel roller, and placed him on an inclined plane, with the heels much upwards and the head and shoulders downwards. At 4 P.M. we again saw him. The pulse was not much accelerated. He had no sickness. There was tenderness in the part, but he did not complain of much pain. The hernia was somewhat reduced in size; and we agreed if alteration had not taken place at our next visit, to operate. At 9 P.M. we again saw him. The symptoms were no worse; the tumor was somewhat shrunken, although still of immense size. We used a little manipulation without apparent effect, but I detected slight gurgling, giving me the idea that there was a little yielding. I asked the patient to try his own manner of manipulating (as he had frequently done so within the last few years, not having appeared to have worn a truss, so that the rupture had been down frequently), when the hernia vanished and passed up through the crural ring. The next day he was comfortable and had not much tenderness. I had a truss nicely fitted, and he got about in two days apparently quite comfortable until the 16th August, when I was again sent for, the hernia having slipped down and again become strangulated. This, nearly of the same size as before, I managed with himself to reduce by manipulating with the taxis, although this time he had constant vomiting of coffee-colored fluid, and had much more tenderness.

"The most peculiar feature in this case was, that the testicle on the side of the femoral hernia was protruded through the crural canal or ring into the groin; I passed it up, and found that it eventually came through the external inguinal ring into the scrotum. The patient told me that it had often been so since birth, sometimes in the scrotum and sometimes lost to feeling; and no doubt there was some congenital difference in his case. I perceived an incipient inguinal hernia on the other (the left) side, necessitating a double truss."

ART. 192.—*Strangulated Femoral Hernia in a Man—Operation after Fifty-six Hours—Recovery.*

Under the care of the late Mr. C. H. MOORE, Surgeon to the Middlesex Hospital.

(*Medical Times and Gazette*, January 1.)

We are indebted to the Senior House-Surgeon of Middlesex Hospital, Mr. R. H. Lucas, for the notes of this case.

W. D., a healthy man, aged fifty, a coachman, was admitted into the male accident ward on the evening of Nov. 23, 1869, with symptoms of strangulated hernia. He stated that for ten months past he had been ruptured, a swelling appearing in the left groin at frequent intervals; but as he had always been able to reduce it himself he had never worn a truss. Two days before admission, however, the bowel coming down with some slight exertion, the patient found himself unable to reduce it. In the course of the day the swelling began to increase, and nausea and vomiting set in. There was no action of the bowels, and considerable pain and tenderness about the abdomen made him seek surgical aid. Taxis, with and without chloroform, failing, he was sent to the hospital fifty-six hours after the first symptom of strangulation.

On admission, the man looked very worn and suffering, complaining of pain and tenderness across the abdomen, and also in the hernial tumor. This was larger than a hen's egg, situated just upon Poupart's ligament on the left side,

feeling firm and rather doughy, with no impulse nor fluctuation. The tongue was thickly coated, and the man complained of thirst, and frequently retched.

Mr. Moore was at once sent for, and he operated without delay. When the sac was opened a couple of ounces of dark blood-stained serum gushed out, and a large quantity of omentum was found concealing a small knuckle of intestine, tightly nipped. Gimbernat's ligament—the seat of constriction—was divided, and the bowel, which did not seem to have suffered materially, returned; and then, a tight ligature being applied about the omentum, the greater part of this was cut away, the wound closed, and covered with carbolic oil under a pad and bandage.

Patient passed a fair night, but next morning was found lying with knees drawn up complaining of abdominal tenderness, especially in left iliac region. No more vomiting, but tongue furred, and bowels not yet opened. Ordered milk diet, linseed poultice to the abdomen, and a pill of pulv. opii gr. j, with hydrarg. chlor. gr. ij, to be taken every sixth hour.

Nov. 25.—The abdominal tenderness was much diminished, but there was considerable swelling and redness about the wound. The sutures were removed, and a poultice applied. The lips of the wound had nearly united.

Nov. 26.—The swelling persisting, the wound was slightly opened up, and some confined bloody serum released. There was as yet no action of the bowels, and the tongue remained thickly furred. Tinct. opii to be applied under the poultice, and pil. calomel. c. opio to be taken twice a day. Diet restricted to milk Oj, and strong beef-tea Oij.

During the next week the patient was free from any sign of general peritonitis, but a constant discharge of offensive pus from the deep parts of the wound showed that suppuration of the sac was going on. The ligature put about the omentum came away on the sixth day, the pus assuming a healthier appearance shortly afterwards, and since then progress towards recovery has been uninterrupted.

The bowels remained quite torpid until Dec. 6 (13th day), when they were cleared out by a simple enema, the motions of good color and consistence. On the same day Mr. Moore made a counter opening on the outer side of the swelling, which afterwards discharged healthy pus from both apertures. When we saw the patient on Dec. 8, he seemed nearly well, save for the slight suppuration which continued at the seat of operation.

Art. 193.—*Case of Sloughing Hernia.*[1]

By Patrick Heron Watson, M.D., F.R.S., F.R.C.S., Lecturer on Surgery, Surgeon to the Royal Infirmary and Chalmers Hospital.

(*Edinburgh Medical Journal*, March.)

The features of chief interest in this case are:—

1. The period which elapsed betwean the descent of the rupture and the occurrence of symptoms of strangulation, amounting to four days.
2. The subsidence of these symptoms after lasting for a few hours.
3. The development of symptoms of suppuration within the sac four days after the symptoms of strangulation had subsided.
4. The sloughing of the peritoneal coat of the bowel without the involvement of the muscular or mucous coats.
5. The escape of the patient from the establishment of a regular fecal fistula.
6. The long period which elapsed before the bowels acted spontaneously.
7. The spontaneous recedence of the knuckle of intestine within the abdominal cavity during the process of healing.

The following practical deductions appear worthy of enumeration:—

1. Not to regard the use of the taxis in incarcerated hernial protrusion as devoid of risk, or preferable to operation.

---

[1] Abstract of a Paper read before the Edinburgh Medico-Chirurgical Society, Feb. 2.

2. Not to delay operative interference when local inflammatory symptoms continue and extend.

3. Not to regard the whole thickness of a knuckle of intestine as in a sloughing condition because the serous coat is so, and lies bathed in a fetid abscess.

4. To prefer simple division of the stricture, where extensive firm adhesions exist, to breaking up the adhesions, and returning the bowel.

5. To abstain from all measures calculated to obtain evacuation of the bowels when a doubtful condition of the intestine is disclosed at the operation; to nourish the patient upon the food least likely to afford in digestion an abundant residuum; and to employ opiates, so as to keep all uneasy symptoms in abeyance.

ART. 194.—*Statistics of Hernia from an Etiological Point of View.*

By Dr. A. WERNHER.

(*Langenbeck's Archiv*, Band ii. Heft 3, 1869; *Gazette Hebdomadaire*, No. 9, 1870.)

Statistical researches considerable in number and formed from much material have been made on hernia; and, to name but the most important works, Knox, Cloquet, Nivet, Marshall, and especially Malgaigne and Kingdon, have collected a number of notes which have apparently established most of the etiological conditions. There are, however, notable differences in the results obtained in one quarter and in the other, and Dr. Wernher has imposed upon himself the task of seeking the truth in the revision and comparison of the documents accumulated in various countries.

In dealing with the question of the relative frequency of the different forms of hernia, the author has utilized the statistics of the London Truss Society. Out of 3085 herniæ, 700, that is to say, nearly one-fourth occurred before the age of ten years; and in the female the number of inguinal herniæ was one-tenth that in the male, and, contrary to the opinion of Malgaigne, that in advanced life the number of inguinal herniæ became almost equal at the epoch of old age, the author finds that the difference remains about the same, or is even somewhat greater in old age than in youth. The frequency of crural to inguinal herniæ is as 1 to 9. With females between the ages of thirty and forty years the number of crural is double that of inguinal herniæ, but during the years of advanced life inguinal becomes almost as frequent as crural herniæ, but not more frequent, as was declared by Malgaigne.

Dr. Wernher compares Malgaigne's recruiting statistics with the results obtained from the tables of recruits in Belgium, Saxony, Hesse, and Wurtemberg, and also the French recruiting tables of 1865.

Whilst Malgaigne concluded that there was on an average one case of hernia for every thirty-two persons above twenty years of age, Dr. Wernher gives a much greater proportion. Thus in France (1865) there was 1 individual with hernia to every 17 or 18 of conscripts; in Belgium the proportion was 1 to 19 or 20; in Hesse and Saxony, 1 to 17; in Wurtemberg, 1 to 11.

With regard to the relative frequency of the side of the body affected, the statistics of the London Truss Society give precise information. In the male it varies according to age; thus, up to one year of age there are more than twice as many herniæ on the right side; from one to five years the proportion is much greater, 3.7 on the right to 1 on the left. But this very great frequency on the right side diminishes with age, the slightest extent of difference existing at the epoch when the male is most active, that is to say, from twenty-five to forty-five years of age.

ART. 195.—*Double Scrotal Tumor on Left Side, formed by Hydrocele of the Tunica Vaginalis, and Hydrocele of the Cord; Clinical Remarks.*

Under the care of Sir W. FERGUSSON, at King's College Hospital.

(*The Lancet*, January 15.)

In some clinical remarks upon the following case, Sir W. Fergusson drew attention to the different methods pursued in examining a case of doubtful swelling of the scrotum, and stated his reasons for concluding that the second swelling was a hydrocele of the cord. He then compared the two fluids, pointing out that that from the second tumor was milky in appearance, whilst that from the larger tumor, which was first tapped, was transparent, and of a pale-yellow color. On microscopical examination, spermatozoa were seen in the milky fluid from the hydrocele of the cord, which also, on the addition of nitric acid, deposited a smaller quantity of albumen than the yellow fluid from the tunica vaginalis.

Mr. H. Royes Bell has kindly supplied us with this record:—

George B——, aged fifty-four, a stable-man, was admitted, having applied for surgical relief under the supposition that he was suffering from a large rupture on the left side of the scrotum. On examination, the following morbid phenomena were observed. On the left side of the scrotum was a large swelling, which gave no impulse on coughing; it did not disappear, or even diminish in size, on pressure, and was free from pain. There was indistinct fluctuation. The testicle could be felt at the middle and back part of the swelling. Light was transmitted on illumination with a candle. This swelling had made its appearance about two years before, and had gradually increased to its present size. The patient attributed it to a strain caused through lifting a heavy sack.

Sir Wm. Fergusson tapped the tumor, and drew off a large quantity of clear yellow fluid. The scrotal swelling, however, did not disappear entirely, and there then seemed to be another hydrocele, which was evidently connected with the cord, as it occupied the upper part of the scrotum. A trocar was then thrust into this tumor, and some milky fluid drawn off. The hydrocele that was first tapped was then injected with diluted tincture of iodine.

ART. 196.—*Case of Inguino-Crural Rupture.*

By C. HOLTHOUSE, F.R.C.S.

(*Medical Times and Gazette*, April 30.)

At a meeting of the Clinical Society, held Feb. 8, Mr. Holthouse related a case of Inguino-crural Rupture, a name he proposed to apply to that variety of inguinal hernia in which the protrusion, after emerging from the external abdominal ring, turned outwards into the groin instead of descending into the scrotum, thus resembling in form and position a femoral hernia. Mr. Holthouse believed it to be nearly always a congenital affection, and associated in the male with an imperfect descent of the testis and an undeveloped scrotum on the side of the protrusion; whereas the determining cause in the female was an abnormal separation of the columns of the external ring. He then referred to examples of this rupture which had been recorded by Lawrence and Birkett, on the authority of Monro, Scarpa, and Fano, as well as two of more recent date, by Dr. Humphry, of Cambridge, and Mr. Paget. Mr. Holthouse had met with two such—one in the male, and the other in the female: details of the former of which he related to the Society. The tumor, which had become suddenly larger and painful under a violent muscular effort, disappeared within twenty-four hours, under the influence of rest, opium, and the application of ice to the tumor, leaving behind nothing but the testis, which occupied a large adventitious pouch (the vaginal sac) between the skin and aponeurosis of the external oblique muscle.

Art. 197.—*Lymphatic Varices of the Penis and Scrotum following Contusion.*

By M. Trelat.

(*Gazette Hebdomadaire*, No. 51, 1869.)

The following case was brought under the notice of the Imperial Society of Surgery of France:—

"The patient was a man twenty-six years of age, who was admitted on October 4 into the Hôpital de la Pitié. Four days previously he had been pushed against the corner of a table. This caused contusion of the penis at its base and its upper part on the right side. There was much swelling of the organ during the night. On the patient's admission the penis was enlarged and œdematous, and the glans completely hidden. There was no urethral discharge. The œdema was hard and red. There was very little pain on pressure except at the seat of the blow, which presented a tumefaction projecting beyond the rest of the organ. The œdema soon extended to the scrotum. On the next day a rosy semi-transparent elevation was observed on the dorsum of the penis; on pricking this with a pin there was a flow of a slightly yellowish fluid. An histological examination demonstrated that this fluid was lymph. At the time of the commencement of these symptoms there was some amount of balanitis resulting from the contact of the œdematous mucous membranes.

"After the patient had remained in the hospital for a short time, the scrotum became red and was covered by papulæ, also containing lymph. These appearances were limited exactly to the penis and the anterior part of the scrotum. The treatment in starch baths, and in manual compression exercised by the patient. The œdema then diminished, the elevations disappeared, and the patient was discharged as convalescent on October 26."

Art. 198.—*On Gangrene of the Penis.*

By M. Demarquay.

(*Archives Générales de Médecine*, Mai.)

M. Demarquay thinks it remarkable that gangrene of the penis has not hitherto been the object of any special work, since this morbid affection is far from being rare at the present day, and was mentioned by several old authors, including Hippocrates.

Frequency of the Affection.—M. Demarquay has collected from periodicals twenty-five cases; he believes that this form of gangrene is a frequent complication of various lesions of the penis.

Seat.—Varies very much. Sometimes, and most frequently, the prepuce alone is attacked. The skin of the penis may be entirely affected as far as the root of the organ. Astruc gave as points of selection the cutaneous, dependent, and lax parts of the penis, such as the prepuce; "whence," states this authority, "the gangrene spreads in a short time to the skin of the whole organ, and also to the corpora cavernosa."

The disorganization may next attack the skin of the neighboring regions, and extend as far as the groins and the umbilicus; the glans penis, the urethra, the corpus cavernosum, may sphacelate either partially or wholly, but this is very rare.

Varieties.—All forms of gangrene have been observed in the penis. Dry gangrene is more rare than the moist form. Complete and general disorganization of the penile organ has been observed in some rare instances.

Causes.—Gangrene of the penis is rarely the expression of a purely general condition. The causes are more local than general, although the latter exist. These predisposing causes are age and constitution.

(*a*) *Age.*—Gangrene is almost as frequent in the infant and in the old man as in the adolescent or the adult. With infants it is especially in cases of epidermic exanthemata that this complication is observed; with the old man, on the other hand, it is nearly always due to some local cause.

(*b*) *Constitution.*—Lax, lymphatic constitutions seem to present a special disposition to penile gangrene. In other cases, on the other hand, the gangrene attacks individuals with a robust and sanguine constitution.

The determining causes are *fevers* and *poisoning.*

Fevers.—Cases have been recorded of the affection occurring with smallpox, typhoid fever, scarlatina, erysipelas.

Poisoning.—Gangrene of the penis has been made out after glanders. Finally the ergot of rye may sometimes determine the affection.

The *local* causes play an active part in the production of the morbid phenomenon.

Phimosis may indirectly produce gangrene of the penis by causing the retention and accumulation under the prepuce of an irritating discharge from balanitis or a chancre. Removal of an elongated prepuce when it is inflamed from this cause, will sometimes be followed by penile gangrene.

Paraphimosis is also a serious condition for the production of gangrene of the penis.

The traumatic causes of gangrene of the penis are numerous. These may be divided into causes which act from without inwards, such as the compression exercised upon the penis by a ring or ligature, and causes which act from within outwards, as a calculus arrested in the urethra or some foreign body introduced into the canal. Finally, we have wounds of the penis; of these there are two kinds, those which are spontaneous, as a chancre or some other form of ulceration, which has taken on phagedenic action, and those caused by the knife and by crushing and contused wounds.

Of all the causes just enumerated there is not one which can by itself produce gangrene of the penis. Inflammation is the necessary corollary of each, for gangrene cannot be produced without the development to a certain degree of this condition. Inflammation alone may sometimes constitute the initial phenomenon and the termination of gangrene.

The inflammatory causes of gangrene of the penis are simple balanoposthitis, phlebitis of the dorsal vein, and penitis. This latter cause frequently implicates typhoid fever, and results in entire loss of the organ; it also follows giving way of the urethra, either from distension of the canal behind a tight stricture, or from a false passage made in catheterism.

"Finally," states M. Demarquay, "are to be mentioned as likely to facilitate the development of penile gangrene, the presence of an epispadias or rather of a hypospadias. It is not a rare occurrence to find patients who are affected with faults of conformation of this kind, either congenital or acquired, who are compelled to use a catheter and may thus determine erosion or even laceration of the urethra, and consequently facilitate the penetration of urine into the cellular tissue of the penis. Hence it becomes urgent to remedy these conditions if one would be anxious to avoid the sight of a rapid course of the phenomena of mortification. These anatomical conditions do not contribute otherwise than indirectly to the production of gangrene of the penis."

Symptoms.—"During the period of invasion the skin gradually swells and becomes slightly œdematous; the tint of the integument becomes dull, the sensibility diminishes, and the temperature is lowered. There is no pain. At a later period phlyctenulæ form, these vary much in number and size, and are more or less distended by a yellowish or reddish serosity. The gangrene then makes rapid progress; the insensibility of the skin increases, the temperature still falls, the tint of the skin darkens, and gangrene is actually established. The sphacelous mass is black, and soft or hard according to circumstances. It presents at its periphery an excavated sinuous and reddish line of demarcation, which is generally well marked on the tenth day. At the time that these local symptoms follow their evolution, general phenomena are manifested with an intensity variable and in proportion to the gravity and extent of the gangrene. Fever is set up, the tongue becomes dry and furred, the pulse rapid,

small, and impressible. The respiration is accelerated, sometimes much disturbed. It is not rare to observe œdema of the lower extremities, diarrhœa, insomnia, delirium, and even coma. Death may finally terminate the painful train of symptoms."

Gangrene of the penis may be complicated by orchitis, hemorrhage after the detachment of sloughs, urinary infiltration, and purulent infection.

Uncomplicated gangrene of the penis has generally a short duration. Its usual evolution lasts only for a few days, but in some instances it may be prolonged over several weeks or even months.

Prognosis.—The prognosis of gangrene of the penis depends upon the greater or less extent of the lesion and upon the depth to which it has attacked the tissues. The loss of the prepuce only has no other importance than that of diminished sensibility of the glans. When the gangrene has involved one of the corpora cavernosa, a loss of substance is produced which is replaced by cicatricial tissue. The genital functions are then seriously modified, and often to such an extent that the patient falls into a state of profound discontent, and sometimes into a state of marasmus ending speedily in death.

Treatment.—M. Demarquay lays down three chief indications in the treatment of penile gangrene: to endeavor to prevent gangrene when it is imminent; to arrest its progress at the commencement; to extirpate it radically after it has been confirmed.

The first indicated may be fulfilled in favorable cases by making scarifications more or less deep into the swollen and œdematous tissues, in order to assist the circulation both of the blood and lymph. In cases where the gangrene has already made some progress, M. Demarquay recommends the actual cautery as a means of bringing about a transformation of the gangrenous ulcer into a normal and simple wound.

M. Demarquay does not speak very favorably of amputation of the penis in cases of gangrene. The proceeding, he holds, cannot be required except where the gangrene is due to some constitutional or debilitating cause; and he asks whether in instances of this kind one can justly say that the gangrene will be arrested after the ablation of the mortified part. The same cause that has presided over the sphacelus of the first portion may continue to act and lead the surgeon to perform another painful and useless operation. M. Demarquay thinks it right to apply the principle of never performing amputation of the penis beyond the sphacelated portion. On the other hand, he observes, amputate in cases where the organ has been rendered useless by extensive destruction and subsequent loss of elasticity from cicatrization.

Art. 199.—*Immediate Treatment of Contusion of the Perineum with Laceration of the Urethra.*

By Stephen Rogers, M.D.

(*New York Medical Journal*, January.)

Dr. Stephen Rogers, in some able remarks on a case of laceration of the urethra from contusion of the perineum, deprecates prolonged attempts at catheterism, in recent cases of such injuries. A catheter or sound should be cautiously introduced, if possible, into the bladder. We are then to wait for the earliest signs of urinary extravasation, when a free incision is to be made in the perineum and into the urethra on a staff or catheter. If, after this, urine do not flow freely from the wound, owing either to paralysis of the bladder or to obstruction in the urethra behind the laceration, the author advocates an extension of the incision backwards into an uninjured part of the canal, and catheterism by this opening, in preference to attempts at passing the instrument from the meatus. This procedure is preferred to tapping by the rectum or above the pubes, as being milder, more direct, and especially as favoring the restoration of continuity to the ruptured urethra; it being well known that such restoration of continuity and removal of constriction are much more likely to occur when the lacerated passage is kept at rest and free from irritation

by urine, than when the stream of urine attempts to pass by the natural but lacerated passage, and thereby keeps up irritation. The author deprecates the practice of retaining a catheter in the bladder, as liable to cause urethral inflammation, and retard the healing of the wound.

ART. 200.—*On some of the Functional Derangements of the Male Genital Organs.*

By W. F. TEEVAN, B.A., F.R.C.S.

(*The Lancet*, April 23.)

At a meeting of the Harveian Society, held March 3d, Mr. W. F. Teevan read a paper on *Some of the Functional Derangements of the Male Genital Organs.* 1. *Abnormal erections in children* might occur at the earliest age, and were caused by some local irritation, as very acid urine, gravel, calculus, worms, prolapse of rectum, or cutaneous eruptions. Children who were forced to lie much on their backs, as in hip-joint disease, suffered from erections through the pressure of the urine on the most sensitive part of the bladder. A tight foreskin was a fertile cause of evil, and ought to be removed. 2. *Too frequent nocturnal emissions in young men* often caused much alarm; but the mental anxiety, rather than the seminal loss, was the cause of the depression. Drachm doses of the tincture of sesquichloride of iron would entirely check these emissions. 3. *Nocturnal emissions in married men* were of common occurrence, and arose from debility and irritation, the results of marital excesses. Local applications of mild solutions of the nitrate of silver would be necessary to effect a cure. 4. *Seminal discharges during defecation* took place in most men at some period of their lives, or some prostatic fluid only might be pressed out. When through indigestion, the semen became attenuated, or there was constipation, the powerful contractions of the levator ani would press out some fluid. Laxatives, &c., would cure these cases. 5. *Diurnal emissions* were of serious import, and might be occasioned through the slightest mental or physical excitement. Suppositories of camphor, belladonna, and opium were of great use, but a solution of the nitrate of silver would have to be applied to the veru montanum. 6. *True lethargy of the sexual organs* was sometimes observed in powerful young men who had led continent lives, and generally manifested itself as loss of sexual desire. Phosphorus, ergot of rye, cantharides, and strychnia were indicated in these cases.

ART. 201.—*Acute Orchitis treated by Puncture.*

Under the care of Mr. NUNN, of the Middlesex Hospital.

(*The Lancet*, January 29.)

The treatment of common gonorrhœal orchitis by puncturing the testis is advocated by Mr. Henry Smith, of King's College Hospital. That pursued by Mr. Nunn at the Middlesex Hospital consists simply in the application of the cold douche to the testis at frequent intervals, whilst the patient lies in a hot bath. A case occurred lately which determined Mr. Nunn to make use of Mr. Smith's method, and we report it as it illustrates the advantage of the timely relief of tension in inflamed structures. Possibly Mr. Smith's operation should be classed with iridectomy in acute glaucoma, an operation essentially for the relief of tension—the fibrous sclerotic of the eye, and the tunica albuginea testis having at least a family likeness.

"John B——, aged nineteen, was admitted into the Middlesex Hospital on November 13th, 1869, with suppuration of the left testicle. The abscess or abscesses had burst, and apertures existed in the scrotum, yielding pus. Six weeks previously he had found a gonorrhœal discharge from the urethra, and within one week acute orchitis had supervened, which ended in suppuration, which was described as his state on admission.

"At first poultices, as the most soothing application, to the inflamed scrotum, and subsequently a mercurial ointment, with the internal administration of nitric acid and decoction of cinchona, constituted the treatment, having the effect of the patient's being able to be discharged, apparently convalescent, on the 30th—that is, after a stay of seventeen days in hospital.

"On the 3d of December, however, three days after leaving the hospital, the patient was readmitted, with acute inflammation of the opposite (right) testicle. The intensity of the inflammatory action was considerably greater, and more limited to the testis itself, than in ordinary orchitis. The pain was very severe. One-third of a grain of morphia three times a day in a pill, and mercury with camphor ointment to the scrotum, was continued until the 7th, when the testicle was ordered to be punctured at three points. The immediate result of this treatment was subsidence of pain, and resolution of the inflammation, no repetition of the punctures being needed. Tonics and wine were given from the 4th till the 28th, when the patient was discharged convalescent.

"Suppuration of the testicle unconnected with either syphilitic or tubercular deposit is an uncommon result of inflammation of the organ. But it is a momentous question whether the spoiling of its special function does not more often follow prolonged inflammation than the affection is accredited with. Making allowance for the share of the general enlargement due to the distension of the tunica vaginalis by serum, the thickening of the epididymis and the cellular and other investments of the testicle, including the scrotum, there must be a balance of engorgement belonging to the body of the testicle which, if allowed to remain, cannot but imperil its secreting properties. Whatever be the plan of treatment which promises *safely* to shorten the period of tension demands attentive consideration."

Art. 202.—*On Subcutaneous Injection of Bubo.*

By Dr. Wertheim.

(*Wien. Med. Wochenschrift;* and *Medico-Chirurgical Review.*)

Dr. Wertheim, attached to the syphilitic and skin department of the Rudolf Hospital, Vienna, states that he has given up all attempts at dispersing buboes by causing their absorption, and now treats them by a very simple and efficacious procedure, subcutaneous injection. A solution of various substances, as morphia, camphor, sulphate of copper, &c., may be used as circumstances require, that of muriate of morphia (gr. iv ad aquæ ʒij) being that which is usually preferable. The ripe abscess is punctured by means of a thick needle, or the tube of a strong Pravaz syringe, and after most of the pus has been gently pressed out, the injection of eight or ten drops of the solution is practised, the patient being taught himself to empty every three hours the fluid that may have collected. The injection is at first repeated daily, and afterward at longer intervals. Although not essential, it is better for the patient to keep in bed. The advantages of the method are, that the pain in the abscess almost immediately ceases, and the other inflammatory symptoms steadily diminish; the thickened pus is gradually transformed into a thinner and thinner exudation, gradually decreasing in quantity, so that in three or four weeks it ceases entirely, and no cicatrix remains. The secretion of pus is confined to the spot, and the surrounding induration gradually diminishes.

Art. 203.—*On the Treatment of Orchitis by Incision.*

(*The Lancet*, February 9.)

The last number of the *Archives Générales de Médecine* contains an interesting paper, by M. Salleron, *On the Mode of Treating Orchitis by Incision.* We are well aware that this practice is adopted by several surgeons in England, with, as they believe, justifying success; and it has been sanctioned in France by the high authority of Vidal, who, in the fifth volume of his *Patho-*

logie Externe, states he has operated on no less than 400 patients without ever having observed any ill effects, whilst the sufferings of the patient have usually been alleviated in the course of an hour, the ease obtained being followed by refreshing sleep. M. Salleron states truly that, notwithstanding this flourishing account, the operation is but rarely undertaken in France, and, when adopted, it is principally in those cases where other means have failed, and where it is consequently most dangerous. He gives the details of two cases in which he ventured on its trial. The first was in a soldier in whom orchitis had supervened on a slight contusion of the right testicle, occurring whilst there was still a little blennorrhœa after a clap. Leeches, warm baths, poultices, and ointments composed of belladonna and mercury, failed to produce any relief to the violent pain. Incision was resorted to. A few drops of serum escaped after the withdrawal of the narrow-bladed bistoury, and temporary amelioration of the symptoms followed; but within a few hours a hernia of a reddish-gray color protruded through the wound of the tunica albuginea, which continued to increase for ten days till the whole of the contents of the testicle had become evacuated, leaving only a shell, formed by the tunica albuginea, of the size of a nut. The course of the second case was almost identical with the foregoing. These cases appear to us to be very instructive. It might indeed be argued that, when the inflammation proves so violent, the functions of the organ would be seriously impaired on its subsidence; but we think most men would prefer to retain the organ of its normal dimensions, taking the chance of its resuming its natural powers, to running the risk of having it reduced to the size of a nut, with complete evacuation of its contents, for the sake of a temporary relief from pain. It is to be observed, however, that various cases are on record of injury to the testicles by clean cuts, where the tunica albuginea has been divided to a considerable extent, and where no evil consequences have followed. In these cases the organs have of course previously been perfectly healthy. Velpeau in particular gives the details of one in which a man in a duel received a sword thrust that laid open the scrotum, and divided the tunica albuginea to the extent of nearly a quarter of an inch, permitting the seminiferous tubules to be distinctly visible, but which had no tendency to protrude: here complete recovery followed. The same observer remarks that hernia of the testis rarely if ever occurs after punctured wounds, such as are sometimes made by inexperienced, or even occasionally by experienced, hands in tapping for hydrocele. M. Salleron remarks, and we are disposed to agree with him, that in the acute orchitis accompanying blennorrhagia the inflammation is by no means restricted to the epididymis, but, on the contrary, affects the whole organ. In the more chronic form, on the other hand, there can be little question that the body of the testis itself remains altogether unaffected; whilst such cases are usually accompanied by a considerable amount of effusion into the tunica vaginalis. The moral of these cases seems therefore to be, as M. Salleron puts it, that in blennorrhagic orchitis of the parenchymatous form incision of the tunica albuginea is useless when the attack is slight, and dangerous when severe.

Art. 204.—*Analysis of* 184 *Cases of Stone in the Bladder of the Adult treated by Lithotrity.*[1]

By Sir Henry Thompson, F.R.C.S., Surgeon-Extraordinary to H.M. the King of the Belgians, Surgeon and Professor of Clinical Surgery to the University College Hospital.

(*The Lancet*, June 4.)

The author presented a series of 184 consecutive cases of lithotrity in the adult, operated upon within a recent period; all treated by the same method and with the same instruments. He furnished all the most important details

---

[1] Abstract of a Paper read at a meeting of the Royal Medical and Chirurgical Society, held May 10th.

relating to each case, and presented the stone itself in almost every instance, preserved for inspection. His object was to make an impartial estimate of the crushing operation, to ascertain its real value, and its place amongst surgical operations. Although this had never yet been fully done, he regarded Sir B. Brodie's last communication to the Medical and Chirurgical Society as perhaps the most trustworthy and valuable record, so far as it goes, which exists on the subject. In order to accomplish this object, he had made carefully written records of every case; and he cited the following circumstances as necessary to be taken into consideration: that the 184 cases had been treated by a uniform method, within a comparatively brief period of time; that all were adults, and embraced much variety of constitution; that all the important facts relative to each were noted in a history of each one, which was attached to the paper as an appendix; and that a large proportion of the calculi were of considerable size. And the author believed he was correct in saying that so complete an opportunity for studying the results of lithotrity had not been offered hitherto, since, as far as he was aware, the data necessary for the formation of a judgment had not been presented to the profession, either in this country or elsewhere.

The results of the operation were discussed under the following heads: 1st. The rate per cent. of recovery after the operation, and the cause of death when it occurred. 2d. The general condition of the patient after the operation. 3d. The frequency of recurrence of stone after lithotrity.

The chief facts relative to the 184 cases were as follows: They were consecutive in point of time, no case being omitted; that all were adults, and mostly of advanced age; that they included many individuals of very feeble health and constitution; that they were chiefly British, although several were from other nations. The mean age of the 184 cases was no less than sixty-one years. The youngest was twenty-two years old. Only three were below thirty years. The oldest was eighty-four years. There were forty-six cases of seventy years and upward. With very few exceptions, all stones of an ounce and upward were reserved for lithotomy. All obviously below that were crushed. Not one case was refused operation, not one was left unfinished, and in no instance was an operation of lithotrity completed by lithotomy. The recoveries, reckoning every kind of casualty following the operation, were 93 per cent.; but omitting five cases of death, not by any means due to it, the mortality amounted to only 4 per cent. A second operation for recurrence of the stone was performed for 13 of the 184 cases; 122 were uric acid and the urates; 16 were mixed; 40 were phosphatic; 4 oxalate of lime; 1 cystic oxide; and 1 pure phosphate of lime.

The important logical conclusion to be derived from the mass of facts considered was that lithotrity is an eminently successful operation. For a certain number of cases, its success may be regarded as a certainty—absolutely without fear of any contingency, except such as attends the minor operations of surgery—for example, the opening of a small abscess, or the passing of a catheter. For the author stated that he had never lost a patient in the whole course of his experience after crushing a stone which was no larger than a small nut; and this he considered was a size at which, with few exceptions, every stone ought to be discovered. But this very fact led the author to remark that the success of lithotrity cannot therefore be considered apart from a knowledge of the extent, in regard of the magnitude of the stone and the constitution of the patient, to which the capabilities of the operation have been pushed. When it is employed for stones as large as a date or a small chestnut—and it is impossible to deny the excellent chance of success which this method offers to the subjects of such stones—a certain, but still only small, proportion of deaths must be expected. And the rate of mortality will correspond with augumentation in the size of the stone, and with the amount of existing disease and age on the part of the patient. Given a small stone in a fairly healthy person, and success is certain; the possibility of contingency in such a case depending only on the presence of those remote and excessively rare conditions which will make for an individual here and there the mere passing of a catheter a cause of death.

The rule observed had been, for the most part, to apply lithotrity to all calculi obviously less than an ounce in weight, easily discovered by sounding, and to operate on all larger ones by lithotomy.

Art. 205.—*Preventive Treatment of Syphilis.*

By Professor Thiry.

(*Presse Belge*, April 24; *and Medical Times and Gazette*, May 21.)

At a clinical lecture delivered by Professor Thiry, of Brussels, he warned his pupils against resorting to precipitate treatment of venereal sores under the idea of preventing syphilis. Until the chancre becomes indurated it is not, in fact, syphilitic at all, and so far from being benefited by mercury, it not unfrequently becomes phagedænic. The mercury is not indicated until induration appears. Then it acts as a curative, not a preventive agent. The treatment of the chancre itself prior to this, whatever its form, extent, seat, or duration, should be local yet energetic; and the bringing this chancre into a state of simple ulcer is the best guarantee we can offer against constitutional syphilis. When, however, in spite of such local treatment, specific induration does appear, syphilis is unmistakably present, and we must interfere for the prevention of further contamination of the system. Now mercury must be at once and vigorously employed, and we are then often able to cut short the disease at its very commencement; and the mercury promptly used has to be continued for a much less time than when delayed. The disappearance of the specific induration is also at this early period the criterion of the efficacy of the cure.

Art. 206.—*Extraction of a Catheter by the Umbilicus.*

By M. Foltz.

(*Medical Times and Gazette*, January 8.)

Mr. Foltz recently read at the Lyons Medical Society a very interesting case that had been under his own and M. Petrequin's care. A woman, the mother of several children, applied to him, stating that, six days before, when between six and eight weeks advanced in pregnancy, abortion had been effected by means of a female catheter. In passing in the instrument, however, it escaped from the hand, and could not be recovered, nor could it be found amidst the discharges, which ensued on the operation. Careful exploration with the finger, the speculum, and Simpson's instrument, carried in every direction within the cavity of the uterus, failed to discover any metallic object. Examinations of the bladder and rectum were attended by the same result; and, as there was neither fever nor pain present, expectation was advised, it being also suspected that the instrument might have passed out without the patient's knowledge.

It was not until four months later that she again presented herself, still having all the appearance of health, but complaining of a tumour at the umbilicus. This did not project much, but it was hard and rounded, and reducible on the slightest pressure, to reappear immediately—just as a commencing umbilical hernia. M. Foltz, however, felt certain that it was produced by the extremity of the catheter; and, in fact, by passing a finger of the one hand into the cervix uteri and placing the other hand over the umbilicus, the body could be moved to and fro pretty much within the axis of the upper aperture of the pelvis. M. Petrequin, now consulted, advised the immediate extraction of the foreign body, although thus far it had given rise to no unpleasant symptoms. Its great mobility, the impossibility of determining the precise seat of its lower extremity, and the fact of its entire disappearance during horizontal decubitis, rendered this no easy matter. The total disappearance of the object, as if by enchantment, when the woman lay down, was indeed very remarkable, and after she had stood up it required that she should walk and fatigue herself for at least an hour before the umbilical tumor reappeared and the diagnosis could be pronounced as certain. During the treatment preparatory for its removal, on several occasions its presence could not be determined. As a pre-

liminary step the uterine cavity was sufficiently dilated by the introduction of compressed sponge twice daily during a week. But in spite of such dilatation, the lower end of the catheter could not be felt, nor the exact portion of the organ in which it was located determined, the upper end retaining its mobility so as only to be vaguely felt. A renewed dilatation for six days longer was effected, when it had to be suspended for eight days in consequence of the menses appearing. When these had ceased it was renewed for another three days, and it was then ascertained that the lower end of the catheter was lodged in front of the anterior wall of the uterus, or rather in the utero-vesical partition. Between the uterus and bladder, on a level with the superior orifice of the cervix, the anterior lip of which was notably thickened, the index finger, introduced into the cervical cavity, or merely placed at the bottom of the anterior *cul-de-sac* of the vagina, was able to feel through a considerable thickness of tissue, but still plainly enough, the end of the catheter. In order to remove the instrument, the woman was placed standing against an article of furniture, and, while M. Foltz fixed between two fingers the end that projected at the umbilicus, M. Petrequin incised the whole of the anterior lip of the cervix, sometimes employing long straight scissors, and sometimes a narrow long bistoury with a rounded end, and having its blade guarded with diachylon. To the surprise of both, the incision did not allow of the extremity being reached, although it extended through the whole lower lip and higher up than the cervix. Endeavors were in vain made during two hours to reach it, its mobility and the depth of its situation rendering wounds of the bladder a possibility. Next day, after an ineffective renewal of the attempt, the removal of the body by the genitals was given up, and an incision, comprising the skin and apneurosis, was made over the upper projecting end at the right of the umbilical ring. At the same time, the instrument was thrust from below upwards, so as to project through this incision. A thread was passed through its eyes in order to retain it, and a renewed attempt was made to remove it through the genital organs by pushing it towards the uterus. This, however, could not be accomplished, and it became evident that the entire instrument had passed through the uterine wall, which had closed and cicatrized over it. It was then resolved to remove it by drawing it upwards with a torsion movement, in order to disengage it, but on raising it up the womb and bladder were dragged with it, and such severe pain and nausea caused as almost to produce syncope. The greatest precaution was therefore required in order to gradually break up the adhesions. The instrument was then withdrawn until its end was nearly reached, when the ring soldered on to it here rendered some enlargement of the incision necessary. No bad symptom followed the extraction beyond some rather severe abdominal pain at first; and the catamenia have since appeared.

Art. 207.—*Remarkable Case of Intussusception in an Infant.*

Reported by J. W. Wilson, M.D., F.R.S.E., Professor of Midwifery in Anderson's University, &c.

(*Glasgow Medical Journal*, February.)

The following case appears to possess such features of interest as to make it worthy of being placed on record. The history and symptoms of the case are briefly these: "A female child, four months old, well nourished, and previously healthy, died after an illness of seven days, with symptoms indicating some mechanical obstruction of the bowels. The prominent symptoms during the illness were distressing and persistent vomiting, first of biliary, then of semi-feculent, matter; frequent muco-sanguineous discharges per anum; obstinate constipation; hiccup; gradually increasing tympanitic distension of the abdomen, &c. Till within a few hours of death the little patient appeared to suffer no pain, the countenance being always calm and placid. She took milk or other liquids eagerly. The vomiting was almost immediately renewed whenever either food or medicine was given. For five days before death there was no feculent discharge from the bowels. Although the abdomen was highly dis-

tended, there was no apparent tenderness anywhere on pressure; it was quite tympanitic, with the exception of the lower portion of the left side, where there was marked dulness on percussion.

"All attempts to evacuate the bowels by castor oil, magnesia, calomel, &c., having failed, opiates were administered at short intervals with the view of controlling the disordered peristaltic action. At the same time warm poultices, alternately with hot fomentations, were continuously applied over the abdomen. Warm olive oil, warm water, &c., were at intervals injected into the bowels through an elastic tube passed well up into the rectum. These means, unfortunately, proved of no avail. A medium-sized male elastic catheter was, on two different occasions, passed about six inches per rectum; but I suspect that it did not pass that length along the bowels, but had got bent or doubled upon itself. I should mention that Professor Rainy and Dr. Andrew Anderson saw this child in consultation with me.

"An inspection of the body was made twenty-four hours after death by Professor Rainy and myself. The following is a report prepared by Mr. J. R. Watt, my hospital assistant:—

"The body was in good condition, the abdomen discolored and distended, which, on percussion, was found to be caused by the presence of gas. On laying open the abdomen, the viscera seemed to be normal in position and appearance, but no portion of the colon was visible. Two ligatures were applied below the pylorus, and the gut was divided and carefully detached, when, on reaching the left ilio-lumbar region, a firm mass appeared, about five inches long and three in circumference, into which the lower portion of the ileum was continued. Here a couple of ligatures were applied, and the gut removed. On further examination, this enlargement was found to terminate inferiorly at the upper extremity of the first portion of the rectum; another ligature was placed here, and the abnormality lifted out. The whole of the colon was invaginated and formed this large mass, the external layer of which was formed by the descending colon which contained from without, inwards, in succession, the transverse and ascending portions, the terminal portion of the ileum and caput cæcum coli, which last seemed to have been arrested in its course downwards at the upper portion of the first part of the rectum on account of its size. It was laid open from end to end as the successive layers presented themselves, its color becoming very dark on nearing the caput cæcum coli, the walls of which were much thickened, apparently from disease, and their internal structures obliterated. Thus, to all appearance, the invagination had originated with the caput cæcum coli, which gradually progressed until the whole of the colon was included in it."

Art. 208.—*On Imperforate Anus.*

By Christopher Heath, F.R.C.S.

(*The Lancet*, April 23.)

At a meeting of the Clinical Society, held March 25th, Mr. Christopher Heath read a paper *On Imperforate Anus*, and narrated five cases upon which he had been called to operate within the last two years. The first and fourth (both males) were examples of an anal *cul-de-sac* with termination of the rectum about an inch from the surface. In both cases the bowel was reached, in the first being drawn down and stitched to the margin; but both children sank, and in the last case the peritoneum was found to have been opened. The second case was the male child of a medical man, in whom there was no anus, but merely a dimple in the skin. Mr. Heath succeeded in reaching the bowel after cutting through some very dense structure, but was unable to draw it down to the skin. The child has thriven, and is now two years old. It has a bougie passed occasionally, and there is no great tendency to contraction. The third case was in a female child, thirteen months old when brought to Mr. Heath in 1868. There was no anus, but a small opening into the vagina, through which feces escaped with difficulty, and in small quantity. An attempt had been

made to establish an anus in the proper situation soon after birth, but without any good result. Mr. Heath repeated the attempt; but, failing to give relief to the distension of the abdomen, afterwards divided the perineum, and opened freely into the rectum from the vagina. The child recovered its health, and did well until last month, when it died somewhat suddenly with symptoms of enteritis.

Mr. Willett related the particulars of a case that had been recently under his care.

Mr. Thomas Smith said that, according to his own experience, closure of the lower part of the rectum was irremediable; that he had, however, sometimes afforded relief to patients by inserting a vulcanized india-rubber tube over a steel penholder, so that, scissors being used occasionally, the parts are kept sufficiently stretched to keep the canal patent. He believed, however, that in cases similar to those recorded by Mr. Heath, the mucous membrane being continuous with the vagina, the feces will persist in coming through the original opening; and that hence, in cases where no anus exists, a director should be put into the fistula, which latter should be laid open from end to end. He thought the treatment adopted in Mr. Willett's case more likely to be productive of harm than good.

Mr. Callender said the occurrence of bleeding after these operations, and a difficulty in getting rid of the feces, were points worthy of grave consideration, and that of two cases in which serious hemorrhage occurred, one proved fatal.

The President agreed with Mr. Smith, that the retrospect of these cases was as a rule very unsatisfactory. He could speak of only one successful case, in which an artificial opening was made in the normal position of the anus. The operation was performed fourteen years ago, and the orifice still remained patent. It would be interesting to obtain trustworthy records as to how long persons lived in this condition, and if they often reached the age of puberty. He had also observed that in cases where the lower rectum was deficient, a large pouch was present, separated from the colon by an orifice; that in one instance this pouch was so enormously distended with fæcal matter as to simulate a large abdominal tumor; that an opening was eventually made, and large masses of feces scooped out of the pouch, with an agglomeration of triple phosphates, that appeared to form a kind of nucleus. Two years have now elapsed since the operation, during which time the rectum has emptied spontaneously, and the patient has done well.

Mr. Barwell mentioned a case in which a continuation of the rectum occurred below the vaginal opening, and that he had punctured, and kept it open successfully.

Art. 209.—*On Polypus and Stricture of the Rectum.*

By Holmes Coote, F.R.C.S., Surgeon to St. Bartholomew's Hospital.

(*Medical Mirror*, March 1.)

Polypus of the Rectum.—Mr. Coote has not yet met with well-marked cases of polypus of the rectum, and this accords with the experience of most surgeons, including Mr. Syme. "The extreme rarity of this disease may be estimated from the statement of Sir. A. Cooper, that in the whole course of his experience he met with only ten cases of it." He says it generally occurs in children, and very rarely in adults, and that the most advanced age at which he has met with it was twenty-two. Most of the cases which have fallen under Mr. Syme's observation were in persons who had attained or passed the middle period of life. In five cases, which, by a curious coincidence, came under his care in a little more than a fortnight, two were in adults and three in children. The disease presents itself in three forms. The first occurs before the ninth or tenth year. It is extremely soft and vascular, of florid red color, and assumes the form of a worm two to four inches long, or a strawberry with a

connecting footstalk, two or three inches long. The second occurs in adults; the growth is soft and vascular, and prone to bleed: it is lobulated, shreddy, and malignant looking, and it is best removed by ligature. The third form is of firmer consistence, and the symptoms are annoying rather than alarming. Mr. Syme removed one nearly as large as an egg; it had a cuticular covering and appeared to have existed a long time.

Mr. Coote is of opinion that these cases are very uncommon, and may be often overlooked by a superficial examination.

Stricture of the Rectum may be simple contraction, or contraction and narrowing, dependent on cancerous or other morbid deposit. The long persistence of a fistula in ano will lead to contraction; so also will ulceration of the mucous membrane, syphilitic or otherwise. In other cases the stricture is imaginary. Mr. Coote lately examined a patient in whom the lining of the bowel was perfectly healthy, and the supposed stricture was dependent only on chronic constipation. The author cannot agree with Mr. Nunn, that most of the non-malignant strictures of the rectum are of syphilitic origin. Catarrh of the rectum is uncommon even in females. In cases of stricture which have fallen under Mr. Coote's observation, in females, the cause has mostly been an hypertrophied and tuberculated condition of the mucous membrane of the bowel, which he has, under all circumstances, found most difficult to cure.

But stricture of the rectum, dependent on malignant disease, is out of all proportion the more frequent in adult life. It occurs in the same part of the gut as the simple stricture; but it is not so limited or regular in extent. The disease is sometimes confined to one side of the gut, at others it affects the whole circumference.

In some of these cases there are an assemblage of flat cutaneous growths around the anus, in no way resembling mucous tubercles, but elongated and flattened processes of the skin, the presence of which generally indicates contraction of the canal about one inch and a half from the anus. In cancer the anus is generally, but by no means always, free from disease, and the existence of these long pendulons should be always regarded with suspicion.

In the investigation of the rectum for supposed stricture, the surgeon should remember that the symptoms may proceed from many causes, that the promontory of the sacrum has been mistaken for stricture, cures of which have been mentioned by Mr. Copeland, also by Mr. Syme and others. Spasm may exist in various conditions of the bowel, but that can hardly be included under the head of stricture. The narrowing may depend on long-continued inflammation of the parts, attended with general consolidation of the contents of the pelvis, and the formation of numerous fistulæ, a condition easily recognizable, but in other cases the prevailing cause is cancer.

One other source of contraction already alluded is that in which the canal of the bowel is filled by a growth of tubercles. It has been described by a once popular writer, Mr. Calvert, who says: "In some cases (of contraction of the rectum) it is chiefly owing to a thickened and indurated state of the mucous membrane, arising from inflammation, or some chronic alteration of texture; but that when the disease has existed a considerable time, the mucous, cellular, and muscular coats become more or less affected, so that, on dissection, it is often impossible to determine in which the disease originally commenced." He describes other cases in which the cavity of the rectum is nearly obliterated by *the presence of hard, painful tubercles*. This disease, he observes, bears some resemblance to the first stage of malignant stricture, at least as it appears in some cases, but it is evidently quite of a different nature, as it is easily cured by compression.

In all cases of stricture of the rectum, particularly in the non-ulcerated state of the bowel, the maintenance as long as possible of the continuity of the canal by the introduction of bougies, is a measure which suggests itself to all surgeons, and in some cases an unexpectedly large amount of benefit is obtained by means of direct pressure. The instrument should be of such a size as to pass, well lubricated with oil, without much pain or difficulty. When it has remained for half an hour or more, it should be removed, and passed again the next day, the same size bougie being continued for several days. Mr. Cal-

vert warns surgeons against the possibility of errors; not only has the sacrum been mistaken for stricture, but also pressure on the rectum by a retroverted uterus, by an enlarged ovary or other tumor. He also states that he has seen the bougie employed a long while, in one example, where the real disorder arose from a biliary concretion imbedded in the parietes of the rectum.

ART. 210.—*Removal of the Lower End of the Rectum, with the Prostate, Prostatic Urethra, and Part of the Neck of the Bladder, for Epithelioma.*

By Professor NUSSBAUM, of Munich.

(*British Medical Journal*, January 8.)

Professor Nussbaum has reprinted from No. 44 of the *Aerztliches Intelligenz-Blatt* an account of an operation which he believes to be unique. In August, 1863, he published four cases which showed that, after the removal of cancerous rectum, patients, who were previously at death's door, lived many months, and even years, in ease and comfort, before a relapse occurred. He several times removed a portion of the bladder as large as a dollar, along with cancer of the rectum; and the wound healed, as after lithotomy, without leaving any urinary fistula. When cancer of the rectum, he says, recurs after operation, it does so after a longer interval than most other cancers. Emboldened by his success, he has operated in cases where death was apparently imminent, and where the cancer did not extend higher than four inches; so that he had a chance of attaching the healthy bowel to the sphincter ani. This sometimes proved very difficult. The subject of the present history was brought by Dr. Nussbaum in October, 1866. He had had no relief to the bowels for sixteen days. No enemata would pass. Repeated hemorrhage had reduced him greatly, and the urine was often bloody. To make an exploration, Dr. Nussbaum was obliged to push his finger forcibly through the cancerous stricture. Copious hemorrhage followed, both by the rectum and through the urethra. Part of the urethra, the whole prostate, and a portion of the neck of the bladder were involved in the cancerous mass. The extensive disease deterred him from operation; and he at first determined to attempt, by the use of bougies, to restore a passage for feces, and, by means of perchloride of iron and compresses, to try to arrest the hemorrhage. However, after two days, the patient's sufferings were so great that he begged, at any risk, that the operation might be done. On October 14th, the patient being deeply chloroformed, Dr. Nussbaum began the operation by making two semicircular incisions around the anus; and, carrying the finger upwards, he separated the healthy fibres of the sphincter from the diseased as far as possible. Healthy tissue was found at the depth of four inches. The prostate and neck of the bladder being involved, were removed, with of course the prostate portion of the urethra. There was much bleeding; but after four arteries had been secured, iced water abated this. Dr. Nussbaum then dragged down the healthy bowel, severed it completely from the diseased tissues, and secured it with ten button-sutures to the skin; and closed the perineal with four deep sutures, after introducing an elastic catheter through the wound into the bladder. The healthy bowel was enormously dilated; for the stricture had existed five years. The disease was epithelioma. The patient was much distressed; but after being put to bed and stimulants having been given he rallied. For some days the thermometer marked 104 deg. Fahrenheit, and the pulse was 130 to 140. Urine passed through and alongside the catheter; it was blood-stained and very offensive. Besides slight shiverings he had two distinct rigors; and the catheter became unbearable. Dr. Nussbaum removed it, and also two perineal sutures; and syringed the wound with water only. He had no further rigors. There was secondary hemorrhage on fifth day, arrested by a large plug of charpie in the new rectum. After this nothing remarkable occurred. The sutures were all removed on the eleventh day. Dribbling of urine soon ceased, and from time to time the patient passed urine freely through the new anus. He always held the

vessel to the penis, as he had great irritation about the fossa navicularis, and always felt as if the urine passed the natural way. As the wound healed a valve-like communication formed between the bowel and the bladder, allowing the urine to pass by the anus, but not feces to enter the bladder. Every two or three days he had a solid stool, and every twenty or thirty minutes had to pass urine. After the sixteenth day, no urine came through the perineal wound. At the end of four weeks, he got up for an hour a day; and provided he passed urine once or so in an hour, felt no incontinence of urine, flatus, or feces. In December he left Munich, but called on Dr. Nussbaum three months afterwards, and was well satisfied with his condition. He looked well and strong, and occasionally worked at his trade. Every year he came to see Dr. Nussbaum, and was always happy and comfortable. He had not complete retention for more than an hour at a time; otherwise, the fecal and urinary apparatus worked well. Last year, he said he could hold his urine two or three hours. Unfortunately, the apparent improvement was due to a return of the disease; and he succumbed to the malady at last, three years having been gained by the operation.

ART. 211.—*On Carcinoma of the Mammary Gland.*

By W. SCOVELL SAVORY, F.R.S.

(*Medical Press and Circular*, March 16.)

Mr. Savory says that, as a general rule (exceptions are too rare to invalidate it) cancer of the breast, when excised, returns and destroys the patient. But excision may slightly prolong life, as well as remove the disease for a time as far as its apparent features are concerned. Sibley found that patients operated on lived fifty-three months, others only thirty-two months; but then of course only the more favorable cases were operated on. Sibley says the disease usually recurs in about fifteen months after operation. Ill-defined tumors are the worst. There are many degrees of induration. The stony indurations are slowest in growing. A favorable sign is when the skin moves freely over the surface of the tumor. If the skin looks coarse and feels rough it is a bad case. Should the skin be fixed on the tumor, it is discolored. Ascertain whether the tumor moves freely on the pectoral muscle. In the worst cases, the whole mamma, with the skin around it, is converted into a solid, uniform lump, blending with the muscle below. Glandular affection in the axilla tells strongly against the success of the operation; but it may sometimes be removed. Glands in posterior triangle of neck are sometimes affected in bad cases. The more rapidly the disease is advancing, the worse the prognosis. Cancers are less active in the aged, and sometimes even appear inclined to wither up. The operation on old persons is sometimes needless. The whole gland must be extirpated in cancer, and portions of the pectoral muscle even excised, when it is affected.

ART. 212.—*Removal of Uterus and its Appendages.*

By M. PÉAN.

(*Gazette des Hôpitaux*, No. 143, 1869.)

The following short notice of a remarkable operation, performed by M. Péan, the subject of which was shown to the Academy of Medicine in Paris, at its meeting on December 8th, 1869, is from the pen of Dr. Revillout:—

The tumor is multiple, containing, 1. A very large cyst of the left ovary. 2. The uterus itself hypertrophied, containing a cyst, and extending up as far as the umbilicus. 3. A fibrous tumor of the right ovary, and a cyst of the right Fallopian tube. . . . . Before the operation, M. Péan had diagnosed the existence of a movable fibrous tumor, independent of the ovarian cyst. He had also made out by vaginal examination that the uterus was hypertrophied, but he did not know to what amount, and could not make this out on account of the adhesions which bound the tumors to each other.

When the cyst of the left ovary became visible through the incision in the abdominal wall, M. Péan began to remove it in his usual manner, stopping the hemorrhage by long cauteries, heated to whiteness. After having got out a large part of the cyst, he arrived at the uterus, which he found to be greatly enlarged, soft, fluctuating, and everywhere adherent. These adhesions were very vascular, and could not be broken down without excessive hemorrhage, which even the cauteries failed to arrest. In such circumstances, no resource remained but to remove the diseased uterus along with the other tumors. This M. Péan did not wish to do, through the neck of the uterus, as it, excessively hypertrophied, was as large as a fist. He preferred to carry the section through the vagina itself, and he succeeded in passing across the vagina from before backwards, and through the abdominal wound, a double thread, by which he tied the tumor in two halves; the one on the left side secured the great ovarian cyst, the other one included all the vagina corresponding to the uterus, and isolated, besides that organ, the right ovary and Fallopian tube. After having tied the two ligatures, M. Péan cut off all the tumors close above them, and then by strong pulling brought the pedicle (such as it was) to the abdominal wound. This he did not close at a point opposite to the pedicle. Three India-rubber tubes were passed down to the bottom of the cyst to allow escape of discharge. A good recovery took place.

ART. 213.—*On Points to be observed in Ovariotomy.*[1]

By D. LLOYD ROBERTS, M.D., M.R.C.P. Lond., Physician to St. Mary's Hospital, Manchester.

(*The Lancet*, February 15.)

"All operations involving abdominal section should be performed in a room, light, airy, lofty, and free from draughts. In hospitals a ward should be specially and exclusively appropriated to the purpose, the walls of which should be painted, to admit of frequent washings, and obviate to the utmost extent the absorption of putrid effluvia, and the consequent risk of pyæmia or surgical fever. For the same reason, the ward should contain as little furniture as possible. In short, every available precaution should be taken to avoid an unhealthy atmosphere, a condition well known to be eminently prejudicial to the subjects of abdominal operations.

"The *operating-table* should be opposite and near a window. The patient should be well and completely covered with flannel for warmth, and only the abdomen and face exposed. The bed, thoroughly warmed to receive the patient, should be at hand; and she should be lifted into it with the utmost care, as the slightest concussion is liable to bring on vomiting.

"*Temperature of the room.*—The high temperature advocated by the earlier operators is wholly unnecessary, and even injurious, as it increases the risk of chloroform accidents. A temperature of 64° I have found most favorable.

"*Anæsthetics.*—I have invariably used chloroform. From its tendency to excite vomiting, which is a very formidable complication in all abdominal sections, it is doubly important that the patient should be brought and maintained under its influence by as small a quantity as possible. This is the primary object to be kept in view; and whatever be the apparatus used, careful and experienced administration is essential. Mr. Spencer Wells informs me that he has used methylene in preference to chloroform for the last two years. Dr. Keith has employed sulphuric ether, and the very little vomiting which resulted, added to the success of his operations, appear to constitute a strong recommendation in favor of that anæsthetic.

"*Incision.*—Considerable difference of opinion existed among the earlier operators upon this point. It may now be regarded as established, that the extent of the incision should be determined not only by the size, but also by the

---

[1] Abstract of a Paper read at the St. Andrews Medical Graduates' Association.

nature and consistence of the tumor, the small incision being first practised, and enlarged according to the necessity of the case. When the contents of the tumor are fluid, they can be easily drawn off by the canula, the cyst, thus diminished in size, following the slightest traction through a comparatively small incision. On the other hand, if the tumor is solid and does not admit of reduction, it is better to enlarge the incision than violently to drag a solid, unresisting mass through an opening wholly inadequate for the purpose. The extent to which compound cystic tumors may be reduced by the method adopted by Mr. Wells in emptying one cyst through another by the trocar, is surprising. In making the superficial incision, it is well to avoid opening the peritoneum until quite sure there are no bleeding vessels; which, if discovered, should be twisted or tied. The incision should be made down to the peritoneum without a director. This membrane can then be pinched with the forceps, the fold thus produced divided with the knife, and the director inserted. The membrane can then be divided upon it, above and below, till the incision is coextensive with that in the abdominal wall. This first incision may reach to two inches above the pubes.

"*Adhesions.*—Before tapping cyst the hand should be passed through the incision and over the tumor to ascertain if there be any adhesions. If so, they may be separated by the hand, by the handle of the scalpel, or even by dissection. Adhesions to the bladder, liver, intestines, omentum, and abdominal parietes are dangerous in the order enumerated. The separation of adhesions to the liver, intestines, or bladder is better effected by careful dissection, great care being necessary in order to avoid denuding the viscus of its peritoneal coat or perforating the intestine. Bleeding vessels are best treated by actual cautery or by ligature, cutting the ends close, the latter being the safest practice.

"*Pedicle.*—There are now various methods of treating the pedicle—viz., by clamp, ligature, actual cautery, écraseur, pocketing the pedicle (Storer), and the seroso-plastic method (Maslowsky), each possessing peculiar advantages according to the nature of the case. When the pedicle is sufficiently long, and not very broad, and can be brought externally without undue traction on the uterus, the clamp, as first used by Mr. Hutchinson, and afterwards more extensively by Mr. Spencer Wells, offers the best method of treatment, as all suppuration into the abdomen and pelvis is avoided, and the risk of septicæmia, &c., diminished. The ligature is applicable in all cases, whether the pedicle be long or short. The practice, however, of tying the pedicle, bringing the ends of the ligature externally, and allowing it to slough its way through, is not only tedious, but involves the risk of pyæmia, pelvic and peritoneal mischief. To obviate these inconveniences, Dr. Tyler Smith has revived the bold and ingenious practice of ligaturing the pedicle, cutting the ends close, returning it into the abdomen and closing the wound, and this treatment has been most successful in his hands. Those who advocate the use of the cautery do so on the supposition that the ligature, if returned into the abdomen, may prove a source of irritation, and this plan has also proved very successful in the practice of Mr. Brown, Skoldberg, and others. It is most applicable in short, thick pedicles, where there is little adipose tissue and the vessels are of small calibre.

"*Cleansing the abdominal cavity.*—This should be done with sponges, which ought to be of moderate size, warm, soft, and perfectly clean. The viscera should be disturbed as little as possible, but it is very desirable that all clots and fluid matter should be removed.

"*Bringing of wound together.*—This may be done by means of pins, silk, or silver wire; the latter, in my opinion, being the most preferable, as it keeps the parts in better apposition, produces less irritation, and, if necessary, can be kept longer in than pins or silk. The peritoneum should be included in the ligatures, and there should be three sutures to an inch of surface.

"*Dressing the wound.*—The wound should be still further supported with rossings of plaster, over which a layer of cotton wool may be placed. There is no necessity for a bandage as a support, as it produces in many cases a good deal of discomfort, is very apt to become displaced, and prevents a ready examination of the wound.

"The *after-treatment* may be conducted on general principles. The patient

should have as little food as possible for the first forty-eight hours, so as to obviate the tendency to sickness or vomiting. The food should be of a fluid and bland character, such as toast-water, milk-and-water, &c., in small quantities and at divided intervals. Pain, restlessness, and vomiting are best controlled by opium given by the rectum in moderate doses. If the patient goes on well for three or four days, she may be allowed a little light food, such as chicken-broth, beef-tea, sago pudding, and good coffee, with milk and dry toast; a little Champagne or good sherry with water may also be allowed. The bowels should be relieved about the fifth day by enema, which after this may be used every other day. The periodical use of the catheter should be enjoined every four hours the first few days after operation. The ligatures may be removed about the fifth or sixth day. A patient who has undergone this operation should be provided with a day and night nurse, and in hospitals they should have nothing to do with the dressing of other cases.

(c) CONCERNING THE UPPER EXTREMITY.

ART. 214.—*On some Peculiar Results of Injury to Digital Nerves.*

By W. M. BANKS.

(*The Liverpool Medical and Surgical Reports*, vol. iii.)

The following cases are given by Mr. Banks as examples of great pain and suffering consequent upon any trifling injuries to digital nerves, which were relieved in each case by the excision of a portion of the affected nerve. These cases occurred in the practice of Mr. Bickersteth:—

"On Oct. 30th, 1867, a young married lady consulted Mr. Bickersteth, complaining of great pain in the forefinger of the left hand. About a fortnight previously she had given herself a pretty severe cut with a breadknife. The wound had healed well and the cicatrix was still quite soft. It was a little in front of the metacarpo-phalangeal flexure of the finger, and was partly on the palmar and partly on the outer aspect of the digit. It was a slanting cut, and its deepest part was just over the outer digital artery and nerve of the forefinger. Although the wound had healed well the patient had suffered intense pain in the finger, so severe as even to deprive her of sleep; indeed she had not had any rest at night for a fortnight. The finger was somewhat swollen and stiff, and had a peculiar glazed look about it, which pointed to some injury of the nerve. It was therefore resolved to lay bare the digital nerve at the site of injury, and remove a portion of it. The soft cicatrix was taken up with a probe, and a small linear incision was made nearly at right angles to it, over the junction of the nerves. With some little dissection the nerve was reached, and a portion of it, along with some little adherent pieces of fatty tissue, removed. The accompanying artery was cut, but soon ceased bleeding on the application of cold. The little flaps were then nicely adjusted with sticking-plaster and dry lint put on. On examining the pieces which had been removed, two of them were found to contain portions of the nerve, one about one-fifth of an inch long, the other much smaller. Nothing could be detected wrong with them after a most careful examination both by the eye and with the microscope.

"The patient returned on Nov. 2d, three days after the operation. The wound was healing rapidly, the edges having united at once. *She had suffered no pain whatever*, and had slept well at night. Sensation was lost along the greater part of the outer side of the finger.

"On Nov. 8th the wound was quite healed; the patient had suffered no pain since the operation, and the swelling and glazed appearance of the finger had greatly, but not quite completely, disappeared. Sensation along the outer side of the finger was decidedly improving, so that the non-sensitive portion was now confined to a narrow strip on the outer edge of the finger, reaching from the second joint nearly to the tip."

"On Sept. 19th, 1868, Mrs. —— consulted Mr. Bickersteth. She was a

healthy woman, sixty years old, but very active and vigorous for her age. In the previous May she suffered from a whitlow situated at the base of the ring finger and adjacent portion of the palm of the right hand. To relieve this case, incision was made by her medical attendant on the inner side of the base of the ring finger, just below the cleft between it and the middle finger. She recovered perfectly from the whitlow—*i.e.*, there was no stiffness or contraction of the tendons as a result of the whitlow, but yet the hand did not regain its former strength, and soon the ring finger became the seat of excessive pain, which in time affected the others also. The pain next extended up the arm, occasionally even as far as the shoulder. On examining the hand, the fingers were seen to be somewhat stiffened and attenuated, and presented—especially the forefinger—the peculiar glossy appearance of the skin mentioned in the previous case. The affected arm was distinctly smaller than the other, and had a wasted appearance. The constant worry of the pain, and the annoyance arising from the inability to use the hand, had considerably impaired the patient's health. On looking carefully at the site of the whitlow, the cicatrix of the incision above mentioned was seen to be seated exactly over the digital nerve supplying the inner side of the ring finger, a little beyond the point where it separates ftom the nerve supplying the adjacent side of the middle finger. It was considered that the nerve had been injured at this point, and that a portion of it should be excised, the patient being willing to endure any operation in consequence of the increased severity of the pain.

"On Sept. 22d chloroform was administered, and a tourniquet having been fastened over the brachial artery in order to prevent any bleeding from interfering with the ease of the dissection, a good long incision in the line of the cicatrix and subjacent nerve was made, and the nerve having been readily found, about half an inch was cut out. Several Pacinian bodies were dissected off the sheath of the flexor tendons, which, as well as the digital artery, was left carefully intact. The wound was brought together with three stitches, sealed up with a little scraped lint and styptic colloid, and a small splint put along the back of the hand and two first fingers.

"On Sept. 24th, two days after the operation, the patient called. The wound was still covered with a crust of lint and colloid, and there was no inflammation of the adjoining parts. She says that now *she has no pain in the fingers and hand, and none in the arm as far as the elbow*, although the shoulder and upper arm are still painful, but not exceedingly so. The inner side of the forefinger feels 'queer' and numb, but sensation is not completely lost, while the tip is everywhere quite sensitive.

"On Sept. 29th, strapping and water dressing were applied to the wound, which was not completely united but looking very well. There has been no return of pain to the hand or forearm, and in the shoulder and upper arm the pain is now only occasional. She was directed to rub with a soothing liniment, and ordered a tonic containing quinine and phosphate of iron.

"On Oct. 15th, the patient was seen for the last time. The wound had been healed completely for about ten days. The backs of the fingers do not present the same glazed, tight, thin-skinned appearance which they formerly had, but the skin looks thicker and more natural, and has little wrinkles in it. The acute pain is quite gone and the patient sleeps well, her only complaint being of a curious feeling along the upper and inner part of the forefinger, which the excised nerve had supplied, and of a little occasional aching in the shoulder. Her general health has greatly improved, and she can pick up things with the affected hand, and is rapidly regaining the use of it."

Mr. Banks refers to cases reported by Mr. Annandale and M. Berard, and concludes with the following remarks:—

"In these cases of injury to digital nerves, there are one or two points of interest which may be noticed. In the first place, as was seen, Mr. Annandale in his case detected a certain amount of thickening and congestion of the nerve at the site of injury, and he also believed that the Pacinian bodies were increased in numbers and size. According to Beclard and other French authors who have paid some attention to the subject, after puncture of a nerve there remains either in the whole thickness of the nervous cord, or, if the

puncture has been very limited, at one point of its circumference only, a hard opaque swelling of a fibrous consistence, which is invariably formed by a thickening of the fibro-cellular tissue. In the portions of excised nerve which I examined, I must frankly admit that I could not find any change; but in one case under Mr. Bickersteth's care, where a hard cone-like substance was removed, there was no doubt that the Pacinian bodies were, if not increased in number (which I am strongly inclined to think they were), increased in size, as they could be picked out from among the fatty tissue with the greatest ease. In a case of injury to a digital nerve, followed by great pain in the arm and atrophy of the affected finger, which was admitted into the Royal Infirmary here some time ago, the finger was removed at the patient's urgent desire. A complete cure resulted, but I regret that I am unable to give the details of the case. However, I dissected the amputated finger very carefully, and certainly the Pacinian bodies were capable of being displayed with an ease which is not the case in a perfectly healthy finger. Until, however, I could see a few more such cases, I should not be inclined to make any distinct assertions as to the increase in size and number of the Pacinian bodies following nerve injury, as it is a difficult point to determine. My impression, however, is that such increase does not occur.

"In the second place, it is plain that the plan of excising a portion of affected nerve is an immense improvement upon amputation, in all those cases where the nutrition of the finger has not been so much interfered with that general atrophy has resulted. If a tourniquet be applied so as completely to keep the wound free from blood, it is not by any means difficult to perform, and the advantages are so obvious as to require no comment.

"Lastly, there are some curious points connected with the manner in which sensation was affected by the excision. In the first case, a portion of the nerve supplying the outer side of the forefinger was removed to the extent of fully more than a quarter of an inch, and yet on the third day sensation was lost, not along the *whole, but only along the greater part* of the outer side of the finger. On the ninth day the non-sensitive portion was confined to a narrow strip on the outer edge of the finger, reaching from the second joint nearly to the tip. Again in the second case, where the digital nerve supplying the inner side of the ring finger was removed to the extent of nearly half an inch, on the second day after the operation the part supplied by the nerve felt numb, but was *not quite destitute of sensation*, while the whole tip was quite sensitive. These points seem worthy of notice, as showing that the branches of the digital nerves extend so completely round the fingers, that if one nerve be divided, the branches from the opposite one are sufficiently numerous and their connections with the terminal branches of the divided nerve sufficiently free, to maintain partial sensibility even over the part of the finger supplied by the divided nerve."

ART. 215.—*Aneurism Cured by the Subcutaneous Injection of Ergoline.*

By Professor LANGENBECK.

(*Berlin. Klinik. Wochenschrift.*)

A man, aged forty-five, began to suffer in the summer of 1864 with severe pains in the right arm; in the course of a few months a pulsating tumor appeared in the neck. It was evident that the subclavian and innominate arteries were dilated. Dr. Jacobson, of Copenhagen, applied the moxa with some benefit. The tumor, however, increased, and in January, 1869, it had attained the size of the fist, and pulsated strongly. There was also pulsation in the carotid. The pain was very severe; the arm and hand weak and atrophied. On the 6th of January the aqueous solution of secale was injected. Immediately after the injection the patient fell asleep, and in the evening the pulsation in the tumor was much feebler, and there was less swelling. From the 6th of January to the 17th of February the secale was injected about every third day. At the last named period the power of using the hand had returned consider-

ably. The pulsation had not disappeared, but it was very weak, and the tumor was very much smaller.

In another case, the patient, a male, aged forty-two, after a wound at the bend of the arm, noticed a pulsating tumor. The tumor was small, and found to be an aneurism of the radial artery. The patient stated that it had existed for twenty years. The Professor injected the aqueous solution of secale under the skin, in the vicinity of the aneurism. The next day the tumor had very much diminished; by the eighth day it had disappeared.

The effect of the secale in these cases was very marked—an aneurism of the radial artery disappearing after one injection, and a large one of the subclavian in less than six weeks. Practitioners who have seen many cases of aneurism will scarcely believe that the secale can effect what the Professor states. The remedy, however, comes to us under the sanction of such a great name, that we are bound to give it *a trial*. If it succeed even in checking the increase of the tumor, a very great boon will be conferred on suffering humanity. In 1836–7 papers were published in one of the German medical journals, on the utility of injecting the tincture and the infusion of secale directly into the uterus in protracted labor, in menorrhagia, leucorrhœa, and in a variety of the diseases in which it was thought advisable to excite uterine action. The injection of the infusion into the circulation of dogs has been known to cause obliteration of the vessels.

Art. 216.—*Dislocation of both Bones of the Forearm Forwards.*

By Dr. Forbes.

(*American Journal of the Medical Sciences*, October.)

At a meeting at the College of Physicians of Philadelphia, on May 5th, Dr. Forbes reported the following case of this rare accident:—

"It was stated by Petit that a dislocation of both bones of the forearm forwards could not take place without an accompanying fracture of the olecranon process of the ulna; and this assertion has been repeated by many authors in systematic works on surgery.

"Malgaigne has, however, more recently collected six well-authenticated cases of this dislocation without fracture.

"A blow upon the olecranon from behind, when the forearm was flexed upon the arm, seems in each case to have been the cause of the accident.

"On the 10th of December I was called to see M. M., a boy about twelve years old. His accident had occurred but a short time previous to my arrival. He had been exercising himself in a gymnasium, and the proprietor, who saw him at the time, stated that while going up a ladder hand over hand he fell, striking, while falling, the back of his elbow 'at the tip' against the margin of a table, the fall (which was only about two feet) having taken place just as he had drawn his head near one round of the ladder which he held in the grasp of his right hand, and while in the act of extending the left hand to seize the round above.

"On examination the right forearm was found rigidly fixed at not quite a right angle with the arm. The arm was shortened and the forearm lengthened. The hand was supinated and the tendon of the biceps somewhat tense. The olecranon was discovered lodged distinctly in front of the humerus and above the lower margin of the trochlea, and the head of the radius separated from the capitellum by a depression in which the finger could be placed. The dislocation was complete.

"While he was under the influence of ether I flexed the forearm on the arm, so as to disengage the posterior and upper margin of the olecranon from its position in front of the humerus, and while holding the arm firmly, both radius and ulna being still strongly flexed, were brought downwards and backwards, and the reduction was readily effected.

"The general gonflement, tenderness, and discoloration of the entire extre-

mity were excessive for some three weeks after the accident, and it was not until six weeks had elapsed that complete restoration of all the movements of the joint was accomplished, thus indicating how extensive must have been the laceration of the neighboring parts.

"Boyer, Velpeau, and Malgaigne have each recorded a case of this dislocation with fracture of the olecranon. In Boyer's case the man had fallen from a height; the olecranon could be felt drawn up between the condyles, while the coronoid process and radius were lifted up by the brachialis anticus and biceps above the condyles of the humerus. The dislocation was readily reduced but easily recurred. The patient died of other injuries, and the post-mortem examination revealed a fracture of the base of the olecranon extending obliquely downwards and backwards.

"Velpeau's case was of eight years' standing when he saw it; the olecranon was not united to the ulna by bone, the connection being ligamentous, as we often find between the fragments of a broken patella; the radius and ulna rested on the anterior surface of the humerus, yet the patient had a very useful limb."

ART. 217.—*Dislocation of the Atlas upon the Axis.*

By Dr. FORBES.

(*American Journal of the Medical Sciences*, October.)

At a meeting of the College of Physicians of Philadelphia, May 5th, Dr. Forbes exhibited a specimen showing this lesion, and made the following remarks:—

"The specimen which I hold in my hand was removed from the body of a man who committed suicide by hanging. Having tied a silk handkerchief around his neck and fastened the end of it to a small part of a gas-pipe projecting from the wall of his room, and which was not higher than his head, he had apparently jumped up, and having raised his feet at the same moment, the left side of his head had been brought forcibly against the wall and the dislocation thus produced. He was found suspended by the neck with his feet on the floor, dead. His nurse had been with him just fifteen minutes before, and had been sent to get some iced water; during his absence the patient accomplished his destruction. On his return with the iced water, seeing the man suspended, the nurse seized him by the body and held him up, and called aloud for help. I heard him from a neighboring room, and, running in, cut the handkerchief, the nurse still holding him up. Life was already extinct. On post-mortem examination this specimen was obtained: The odontoid process was still held in position by the transverse ligament, but the two check ligaments were found twisted around the top of the odontoid process, and the lateral displacement of the first vertebra was so great that the medulla spinalis was completely crushed. The inferior articulating facets of the first vertebra were entirely removed from the superior articulating facets of the second vertebra.

"The case is an interesting one in a medico-legal point of view, the man having hung himself, yet his feet being found on the floor.

"The rotary motion of the head is performed chiefly by the first vertebra moving on the second, and when this motion is forced beyond its limits the check ligaments may be either broken or twisted; if broken, and the chin at the same time elevated, there will be a displacement of the odontoid process by its either slipping under the transverse ligament or else rupturing it. Petit mentions the case of a child who was instantly killed by being lifted up by the head; the perpendicular impulse broke the check and accessory ligaments, and allowed the odontoid process to slip under the transverse ligament without breaking it, the severe pressure of the dislocated process on the medulla spinalis causing immediate death.

"Malgaigne records a case of rupture of only one of the check ligaments, which yet allowed a dislocation of the odontoid process beneath the transverse

ligament without rupturing it; the circumstance of only one check ligament being broken prevented that degree of pressure on the medulla spinalis which would otherwise have caused instant death. The patient lived twenty hours."

Art. 218.—*Extirpation of Clavicle.*

Under the care of Dr. Britton, at the Driffield Cottage Hospital.

(*Medical Times and Gazette*, May 21.)

The following case is placed on record by Dr. Britton:—

Samuel S——, laborer, aged thirty-five years, has had pain in the left shoulder for some years, which he ascribed to rheumatism. He noticed a small swelling on the left clavicle in the summer of 1868, which remained in much the same state until October, 1869, since which time it has rapidly increased in size, and quite prevented him from working.

March 9th, 1870.—He came into the Driffield Cottage Hospital, when there was found a large swelling about the size of a large orange, but oval in shape, on the left clavicle. It is as hard as a bone, and the surrounding structures seem connected with it, as it is almost immovable. The pulsation of vessels going into it can be felt if hard pressed on the lower side. He has no pain in the tumor, but complains of pain and numbness in the shoulder, scapula, and arm. The hand and arm are slightly swollen, and turn quite blue on hanging down. The sternal end of clavicle seems loose, and feels as if it grated on movement. There is a sharp grating sound heard all over the chest on auscultation, which is loudest over the sternal articulation of clavicle. He says he feels as if he was choking, and his breathing is much impeded. It does not interfere with deglutition; it hurts him much when he coughs, the cough being of a spasmodic character. He says he always feels as if he had something in his throat which he could not get behind by coughing. His general health is bad, in consequence of being badly fed from inability to work. Family history good.

April 16th.—His general health having much improved and the tumor also being much larger, I decided to remove it. Chloroform was administered by Mr. Higgins, late house-surgeon of Guy's Hospital, and I was also assisted by Drs. Nelson and Allison, of Bridlington. I made an incision through the skin the whole length of the clavicle, dissected down at the acromial end until I was able to get the handle of a scalpel underneath the bone, when I sawed through the bone upon it at about an inch from the end. I then dissected downwards and forwards towards the sternal end. There was very great difficulty in doing this, as the surrounding structures were in a semi-cartilaginous state, and I could not raise the bone from its connections with the chest. The subclavian artery could be seen beating under the fascia, but it was not exposed. There were many large vessels running into the tumor, which caused a somewhat large flow of blood. I used torsion for all the vessels, no ligatures. I put silk sutures in the incision through the skin, plasters between, and a wet compress over all.

17th (eighteen hours after the operation).—Has had a good night; no pain; pulse 100; tongue clean; skin rather hot and feverish; is very thirsty; he can breathe much more easily, and without that rasping sound.

18th (forty hours after the operation).—Had a good night; no pain; pulse 88; tongue clean; the feverishness is gone. Wound dressed; no discharge whatever, as it has all healed by the first intention except the cicatrix between each suture. I removed sutures, and dressed with plaster only. To have a dress of castor oil.

27th.—Healed; no pain.

30th.—Has been out of doors; can swing his arm without pain. It only feels rather bound down at the shoulder, or, as he says, it feels stiff.

On examining a portion of the tumor under the microscope, it was found to be cancerous. The remarkable success in the healing process Dr. Britton ascribes to the torsion of the vessels and the pure air of the hospital. Dr. Britton kept the patient in a room at a temperature of 65° for a few days, as he was afraid of lung complications.

(D) CONCERNING THE LOWER EXTREMITY.

ART. 219.—*On Rachitis.*

By HOLMES COOTE, F.R.C.S., Surgeon to St. Bartholomew's Hospital.

(*St. Bartholomew's Hospital Reports*, vol. v.)

After describing the three acts upon which the physiological growth of bone depends, Mr. Coote, points out, following Volkmann, the disturbing influence which rickets exercises upon each. "The cell growth" [from the periosteum] "which precedes ossification goes on rapidly, while the deposit of earthy matter is insufficient, or ceases entirely. Irregular and often large spaces are formed in the medullary structure. The epiphyseal cartilage becomes swollen and enlarged, and forms those peculiar elevations which have induced people to speak of 'double joints' in connection with this disease. Swellings are also seen in the ribs at their junction with the cartilage." A peculiarity of rickety bones is seen in the "extension of the medullary spaces beyond the line of ossification into the cartilage itself, so that irregular outgrowths of red color are seen protruding into the blue cartilage." With regard to the treatment of rickets, Mr. Coote lays great stress upon the importance of change of air especially recommending a seaside residence, and of suitable food and clothing. He objects to the use of tonics, including cod-liver oil, during the acute stages of the disease; thus radically differing from his colleague Dr. Gee, who, it will be remembered, in the last volume of the *Reports*, spoke of cod-liver oil as "a pharmaceutical agent worthy of a place beside iron, Peruvian bark, and mercury," and declared that no time should be wasted over symptoms, but the oil administered from the first, and continuously. Mr. Coote advises the use of movable couches, and, with some restrictions, that of splints or other supporting apparatus. Where the deformity persists in after life he has seen advantage from the sub-periosteal removal of a wedge-shaped piece of bone.

ART. 220.—*On the Value of Extirpation of the Calcaneum.*

By Professor POLAILLON.

(*Archives Générales*, September and October, 1869.)

Professor Polaillon, after giving an analysis of the recorded cases and a description of the operation, thus sums up his opinion as to its value and indications: (1) Extirpation of the calcaneum ought to be accepted in practice, as it allows of the preservation of a foot that is very useful in standing and walking. (2) Its success varies with the age of those operated on. In children and adolescents it succeeds in eight out of nine cases, furnishing excellent results as regards the ulterior employment of the limb. In the adult it has failed in half the cases, and when it succeeds its results are less excellent, the foot accommodating itself ill to the loss of the calcaneum at the age when the period of growth of the skeleton is completed. (3) Amputation is therefore better suited to adults than extirpation, a stump generally furnishing a better point of support than the foot deprived of the calcaneum. (4) It is to be borne in mind, however, that amputation is a far more fatal operation than extirpation, and that under certain conditions this operation may be followed by a cure with far less peril to life. (5) When extirpation has to be determined on the greatest pains should be taken to ascertain that the calcaneum is alone diseased, and that the neighboring parts and the tibio-tarsal articulation do not participate in the affection. But when this diagnosis is difficult and uncertain, the operation need not be necessarily abandoned. An exploratory incision may be made down to the bone in such a manner that it may afterwards serve, according to the extent of the disease, either for the removal of the calcaneum, for tibio-tarsal disarticulation, or an amputation of the leg. (6) In comminuted fracture of the calcaneum from gunshot wound or other cause,

with a penetrating wound of the integuments, extirpation will probably be necessary, as the osteitis will generally go on to caries. (7) Central caries, which has not yet attained the articular surfaces of the calcaneum, indicates the operation of complete gouging. Peripheric caries, with suppuration of the articular surfaces, requires the disarticulation of the bone and the scraping or cauterization of the corresponding articular surfaces. But if the caries has penetrated deeply into the astragalus and other bones, amputation should at once be performed. (8) Complete necrosis and diffuse phlegmonous periostitis are the affections in which extirpation best succeeds, as the periosteum being detached by the suppuration, the operation is reduced to the simple removal of a sequestrum. These are the cases too in which the best bony reproductions are met with. (9) The morbid conditions which indicate extirpation of the calcaneum are especially enchondroma and fibroma, hardly ever cancer. At its commencement cancer does not form a tumor which is sufficiently appreciable for diagnosis, and at a later stage it has invaded the surrounding tissues, and then no other operation but amputation of the entire foot is prudent. (10) The presence of fistulous openings and small ulcers, and inflammatory induration of the skin of the heel, form no contraindications to extirpation. But ulceration of the skin over a large extent, its invasion by a cancerous tumor, or even its excessive thinning through the development of a non-malignant tumor, are positive contraindications to the operation. Even supposing healing to take place, walking would have always to be performed on a cicatrized surface, and would give rise to various accidents. (11) In all cases advantage results from not delaying the operation for too long. (12) The traumatism resulting from it is inconsiderable, allowing it to be performed on subjects even when exhausted by disease.

ART. 221.—*Case of Aneurism of the Profunda Femoris cured by Compression in Twenty-four Hours.*

By JOHN ERICHSEN, F.R.C.S.

(*British Medical Journal*, April 2.)

The following is an abstract of Mr. Erichsen's lecture delivered at University College Hospital on March 21st:—

"There is a case of considerable interest now in the Hospital, of which I shall say more on a future occasion, but wish now to draw your attention to some of its more characteristic features. It is that of a large aneurismal tumor at the upper part of the right thigh. The history is obscure. Last Christmas the patient had an attack of pneumonia, on which a period of bad health supervened, and soon this swelling in the thigh made its appearance. On admission, we found a large tumor in the above mentioned situation; there was no thrill, no pulsation, in it. The superficial femoral artery crossed it on its inner aspect; and the pulsation in this, and its branches below the tumor—viz., popliteal and tibial, was quite normal. In consequence of the stretching and compression of the femoral vein, there was some œdema of the lower part of the leg. I had then some doubts as to its nature. It might have been, first, an aneurism undergoing consolidation; secondly, a deep abscess beneath the periosteum; thirdly, a tumor springing from bone. At the next visit I found the tumor increased in size considerably; it was pulsating strongly, the pulsation being heaving rather than expansile. There were a distinct thrill at the inner part and a bruit, both synchronous with the entrance of blood into the common femoral, and arrested by compression of the same. The muscles of the anterior part of the thigh were stretched and separated. As to its nature, the first idea was that the tumor was an aneurism, but scarcely of the superficial femoral artery, for this was pulsating over the tumor for its whole length, and even below it, and the pulsation in the popliteal artery was quite free. Now aneurism of the superficial femoral springs from the fore part of the artery. In my experience I never knew a case where it sprang from behind. This idea was therefore set aside. Secondly, the idea that it was a pulsating tumor of bone

springing from the anterior and inner aspect of the femur, was favored by (*a*) the strong pulsation without great expansion; (*b*) the distinct thrill; (*c*) the harsh bruit so commonly heard in aneurism by anastomosis consisting in a congeries of smaller vessels. Thirdly, aneurism of the profunda femoris is probably the correct solution of the case. This is a very rare disease, there being few cases recorded. In my own experience I have met with but one instance. A man was under the care of one of the physicians in this hospital for pneumonia: he complained of some swelling and uneasiness in the thigh, but such was the gravity of his internal complaint that no heed was paid to this. He died. At the post-mortem examination a large circumscribed false aneurism of the profunda artery of the thigh (of the size of a cocoa-nut) was discovered. I was disposed then to consider this an aneurism of the profunda artery, because the aneurism was unquestionably in the situation of this artery, being between the superficial femoral artery and the bone. That the latter vessel was quite free, is proved by the fact that the pulsation, through it and its terminal branches, was quite normal in character. Again, pressure on the common femoral arrested the pulsation, the bruit, the thrill, and even the size of the tumor, so there could only be one other vessel than the superficial femoral to supply it—viz., the profunda.

"*The Influence of Treatment.*—Pressure on the common femoral artery arresting the signs, Carte's compressor was applied. The patient bore this badly; he was irritable, and writhed from under the compressor. In the evening, forty grains of hydrate of chloral were given. With this he slept heavily and deeply for twelve hours, during which time the compressor was kept in firm application. In the morning, the pulsation and thrill were found much diminished, the bruit less marked, and there was decided consolidation in the tumor. He could no longer bear this instrument; but, for the next twelve hours, digital compression was used and arrested all the signs. For safety, pressure on the artery was maintained for some hours afterwards; but the twenty-four hours' compression did the work entirely. This would lead us to infer that the tumor was a real aneurism not connected with bone. The thigh has decreased in circumference an inch and a half. All the aneurismal signs are removed, which could only happen in the case of a real aneurism. I am inclined to the opinion that the tumor was consolidating on admission, but that the manipulation used in the examination and diagnosing of it set the aneurism going again—and that then compression succeeded in curing it.

"Reference to the anatomy of the profunda makes it easy to see that compression should cure aneurismal disease of it. Being destined chiefly for the nutrition of the thigh, it has a short trunk, and speedily breaks up into minor branches: hence there is not a long trunk going through the aneurism, and the blood has not to traverse the sac from the vessel by which it enters to one large vessel of exit, but to filter through a number of smaller vessels; consequently the coagulation of the blood is very much favored. We cannot prophesy as to the future and the complications of the case: the tumor may undergo disorganization and suppuration; if not, it will probably advance by steady progress to recovery."

Art. 222.—*A Case of Popliteal Aneurism Treated by Digital Compression; Cured in Sixteen Hours.*

Under the care of Mr. B. Holt, at the Westminster Hospital.

(*The Lancet*, April 2.)

The following case, for the notes of which we have to thank Mr. M'Cann, house surgeon, is interesting on account of the short time in which a cure was effected, as well as the freedom from pain during its treatment:—

John G——, aged forty-one, was admitted on February 10th, 1870, suffering from popliteal aneurism. He was a private in the 90th Foot for twenty-two years, during which time he was subjected to hard work, lifting heavy baggage when changing barracks, and carrying it up and down stairs to the wagons.

He left the army in 1869, and followed the calling of a tailor, when he was in the habit of easing his left leg by placing the right foot under it, finding it gave him pain to sit cross-legged.

About five months ago he experienced cramps in the left leg whilst in bed; the pain was so great that he was obliged to get up and walk about the room. The cramp and pain then ceased, and he felt quite well for a fortnight or three weeks, when the pain returned, extending to leg and thigh. At this time he noticed a small lump in the left ham about the size of a marble, which gradually and steadily increased to that of a hen's egg.

In February, 1870, the pain became so severe that he took to his bed; the leg could not be extended, and his walking was much interfered with. He then sought relief. He was a moderately well-nourished man; heart sounds healthy at apex, but at the base the first sound was much masked by the second, and appeared faint. Pulse 90, irritable. An aneurism existed in the left ham the size of a hen's egg, pulsating expansively with the heart's systole. Pressure on the left femoral in Scarpa's triangle annulled pulsation and bruit. The tumor necessitated the flexion of the leg on the thigh at an angle of thirty degrees. The anterior and posterior tibials beat feebly as compared with the same vessels on the opposite side. The actual dimensions of the aneurism may be represented as $2\frac{1}{2}$ by $1\frac{1}{4}$ inches.

Mr. Barnard Holt gave directions as to the treatment of the aneurism by digital compression. Accordingly a relay of assistants, students at the hospital, having been secured, treatment was commenced on Feb. 15th, at 11 A. M., and kept up till 12 noon on the 16th; but although thus continued all pulsation had ceased at 3 A. M., sixteen hours from the time this treatment was adopted. As a proof of the painless nature of the proceeding, it may be mentioned that the patient slept on one or two occasions for a considerable time while the pressure was being made. Pressure with the thumb was made on the left femoral as it passes over the os pubis. Six students took part in the duty by turns, the place of pressure not being varied, and the time occupied by each being at first half an hour and subsequently a quarter of an hour, as it was found that equable pressure could not be kept up for a longer time. The temperature of the limb sank about two degrees, but regained the same as its fellow on the second day.

Up to the date of our report (Feb. 28th) the patient has remained quietly in bed, the aneurismal clot contracting and hardening; no pulsation to be felt in either the anterior or posterior tibials (left), but the left anastomotica magna is larger than that of the right.

Art. 223.—A *Case of Popliteal Aneurism.*

Under the care of Mr. G. E. Legge Pearse, at the Westminster Hospital.

(*The Lancet*, April 2.)

The following is another example of popliteal aneurism cured by pressure, but in this case by means of tourniquets. The patient presented himself for examination at the hospital in November last, when it was found that the tumor had entirely disappeared, and very slight stiffness of the knee was all that remained. We are indebted to Mr. Lloyd, house-surgeon, for the notes:—

Hugh C——, aged twenty-three, was admitted on the 29th May, 1869, suffering from a popliteal aneurism of the size of a small orange, occupying the middle of the right ham. All the signs of an aneurism were well marked; pulsation and expansion were very evident throughout the sac. On compressing the femoral artery the tumor became soft and flaccid, and could be very nearly emptied, all pulsation ceasing and a distinct systolic bruit, which was previously heard, being discontinued. There was very little pain or tenderness in the tumor, but considerable uneasiness and stiffness in the whole of the affected limb. The man first came among the out-patients, being quite ignorant of the gravity of his ailment, and stated that three weeks before his admission, whilst running, he was seized with severe pain in the calf. He took no notice of it at the time, but feeling the leg stiff some days after was led to examine it, and noticed a

small swelling, which had gradually increased up to the time of his applying for relief. The patient was a vagrant, who attended race-courses in all parts of the country and obtained his livelihood as a courier, frequently running many miles across country, leaping hedges and ditches. He was pale and of spare habit, and never suffered from illness, but had always led a very irregular and dissipated life.

May 31st.—A Signorini's tourniquet was applied to the femoral artery over the pubes, and a ring tourniquet over Hunter's canal. Each was alternately screwed sufficiently tight to arrest the flow of blood at first for about half an hour at a time. A flannel bandage was applied to the leg to prevent swelling, and hot bottles to the foot, as the patient complained of cold during the compression of the artery. He was allowed full diet with one pint of porter.

Third day.—The patient complains of severe pain in the thigh and leg, probably caused by the pressure on the branches of the anterior crural nerve; and this increased so much that at midnight both tourniquets were obliged to be removed, and could not be reapplied until 2 P. M. on the following day.

Fifth day.—The pulsation has perceptibly diminished, and expansive pulsation has quite disappeared. The patient does not complain of pain, takes his food with a good appetite, and bears the pressure remarkably well.

Sixth day.—Both tourniquets being removed, very little pulsation can be felt. There is still a slight systolic bruit. Tourniquets reapplied.

Seventh day.—The pulsation is now hardly perceptible; no bruit whatever can be heard; the tumor is much diminished in size, and is becoming harder. In the evening the patient feeling the continued pressure irksome, took off both tourniquets without telling the nurse. This was not discovered until the middle of the next day, when the pulsation was found to have increased, and the tourniquets were at once reapplied.

Eleventh day.—There is now no trace of pulsation. The tumor still decreasing in size, has become perfectly hard and incompressible. A small vessel can be felt pulsating on the inner side of the tumor. There is now no pulsation to be felt in the posterior tibial artery at the inner ankle; and Mr. Pearse, considering therefore that the vessel was completely occluded and the tumor solidified, ordered the tourniquets to be removed. A ham-splint was then applied, and the patient was allowed to go about the ward. The temperature taken between the toes of the affected side was 84°.8; of the sound limb, 88°. No medicine was ordered for the patient during his stay in hospital. He was discharged thirty-seven days from the time of commencement of the treatment, being able to walk very well with slight stiffness, complaining neither of pain nor inconvenience. One or two collateral branches could be felt distinctly, and a slight thickening in the ham was all that remained of the tumor.

ART. 224.—*On the Reproduction and Reunion of Divided Tendons.*

By M. DEMARQUAY.

(*Communicated to the Académie des Sciences.*)

From the researches of M. Demarquay it results that neither the blood, nor the plastic lymph, nor the blastema, which have been in succession invoked as elements of reparation, play the part that has been attributed to them.

From these researches the following conclusions have been derived:—

1. That the tendon is regenerated by the proliferation of the elements which are found on the internal surface of the sheath of the divided tendon, the two ends of which are retracted.

2. That the external portion of the sheath remains perfectly indifferent during this phenomenon, except it be that the vessels which it supports become more voluminous and increase in number.

3. That the proliferation which takes place on the internal surface of the sheath takes place at the expense of the cellular elements of this part, which at the end of the eighth or tenth day become confounded with the cellular elements springing from the extremity of the divided tendon.

4. That the regeneration of the tendon is so much the more rapid as the sheath of the divided tendon is more vascular; in fact, whilst the tendo Achillis is repaired by the twentieth or twenty-fifth day, the ligamentum patellæ requires a more considerable time.

5. That the phenomenon which constitutes the reproduction of tendon is, in all points, conformable to that which takes place in the reproduction of bone from periosteum, a phenomenon which has been well studied by MM. Flourens, Ollier, and Sédillot.

ART. 225.—*On the Treatment of Rupture of the Ligamentum Patellæ.*

By Dr. SISTACH.

(*Gazette Hebdomadaire*, No. 7, 1870.)

The following is the substance of a report by M. Demarquay to the Académie de Médecine on Dr. Sistach's memoir on rupture of the ligamentum patellæ and its treatment:—

The causes of rupture of the ligamentum patellæ are the same as those inducing fracture of the patella by muscular action. The symptomatology of the lesion is simple, especially when the rupture is complete. Thus the practical interest attending the lesion consists entirely in the mode of treatment suitable for application to it in order to prevent bad results.

M Demarquay gives a résumé of two cases upon which Dr. Sistach had based his researches.

The first case was one of a man, aged forty-nine years, who underwent treatment for rupture of the right ligamentum patellæ with tearing away of an osseous layer of the tibia, the injury having been caused by a violent strain. The wounded limb was for seventeen hours placed on an inclined plane, and treated by resolvents. After this, a vain attempt was made to employ the instrument of Baudens, devised for the treatment of fracture of the patella, but this the patient could not support. On the twenty-ninth day a dextrine bandage was applied, but this also could not be tolerated by the patient. On the sixty-sixth day the man could use crutches. At the end of the fourth month he could walk, and at that time was commencing to flex the leg.

The second case related to a man, thirty-six years of age, who had suffered rupture of the left ligamentum patellæ in consequence of a fall. From February 6th to May 9th the injured limb was placed on an inclined plane. On July 8th, six months after the accident, the patient could walk with the aid of a cane.

M. Demarquay insists upon the great importance of removing in the first place the primary symptoms, such as articular and arthritic effusion, before having recourse to any apparatus, with the aim to bringing back the patellar ligament to its tibial insertion. It is necessary to place the limb upon an inclined plane, as was long ago recommended by Pott, Dupuytren, Malgaigne, and others, and as followed out by Dr. Sistach. Then the articular inflammation ought to be treated. M. Demarquay does not agree with Sistach in the absolute rejection of all confining apparatuses. He is of opinion that an apparatus of this nature may be employed with advantage, on the condition that it is well tolerated by the patient, and perfectly fulfils its end; that is to say, that it causes the patella to descend, and serves to bring down the divided ligament to the point at which it ought to become united. It ought especially to be employed when it is likely to exert any resolvent action upon the concomitant arthritis. As soon as it becomes possible, M. Demarquay attempts to apply to the affected limb gentle pressure, with a dextrine or silicated bandage, after having previously enveloped the joint in wool for the purpose of avoiding painful pressure, and of preventing depression of the lacerated tendon.

For how long is it necessary to leave the patient at rest with or without an apparatus, and when ought the joint to be moved? Dr. Sistach, agreeing on this point with M. Demarquay, thinks that it is impossible to answer this double question in a general manner, and that the surgeon ought always to be guided by the particular case under his eyes.

With regard to the mode of cure, M. Demarquay having his views upon experiments recently made by him on dogs, concludes that the ligamentum patellæ is reproduced with a constant elongation; whence it results that the treatment should be applied in order to render this increase of length as small as possible.

Dr. Sistach rationally assimilating ruptures of the ligamentum patellæ to fractures of the bone, hopes to prevent the bad results of the former injuries by using only the inclined plane. But the two cases reported by Dr. Sistach prove the insufficiency of this simple apparatus, and the necessity of having recourse to a retaining apparatus as soon as its application can be tolerated by the affected joint.

M. Demarquay, in conclusion, insists upon the frequency of rupture of the ligamentum patellæ, and is convinced that this lesion is often confounded with traumatic arthritis.

ART. 226.—*On Disease of the Knee-Joint.*

By THOMAS BRYANT, F.R.C.S., Assistant Surgeon to Guy's Hospital.

(*Medical Press and Circular*, December 29, 1869.)

At a meeting of the Medical Society of London, held December 13th, 1869, Mr. Bryant read a paper on the treatment of disease of the knee-joint, more particularly in reference to operative interference. He began by stating as a rule, no operative interference was necessary in inflammatory disease of the knee-joint without disorganization. When suppuration has taken place of diseased synovial tissue a cure by natural processes assisted by art is generally to be secured. When the disease begins in the bone, operative measures are demanded. A cure by anchylosis is by no means uncommon in the former case. During the acute stage, danger to life is great; the question arises then, whether to amputate or no in order to save life; as a rule, amputation or excision for acute suppurative disease generally is fatal. Mr. Bryant preferred making free incisions into the joint, and washing out with warm water, he considers this ought to precede other operations. Mr. Bryant then read three cases of diseased bone in the knee-joint, resulting from articular ostitis, in which he had removed the sequestra; and the patient recovered with anchylosed joints, and one similar case in which amputation had to be performed. In disorganized joint, the question is, amputation or excision. In amputation of thigh for chronic disease of the knee-joint, taking patients of all ages from his own tables, Mr. Bryant found 188, from Dr. Cormack's 137, total, 325; of these 66 died, 259 recovered, mortality being 20 per cent., or 1 in 5. In Dr. Hodge's work Mr. Bryant found 178 cases of excision of the knee for chronic disease, 70 died, and 100 recovered, mortality 39 per cent., or 1 in 2½. Mr. Swain has given the following up to 1865: 316 cases of excision had been performed, 85 died, or 27.2 per cent., 9 of these having died after amputation, which had been deemed necessary in 39 cases. Since 1865, 74 cases are given, 25 of which died, or 33.7 per cent.; 4 also died out of 11 that underwent amputation; 29 out of 74 dying, or 39 per cent. Mr. Swain gives also a select list of 82, 15 died, 4 others recovered after amputation. We thus have 472 cases of excision of knee-joint, and 129 deaths, or 27.3 per cent., 13 of these being after amputation. If, however, the results of both operations are considered at different periods of life (a point of immense importance), the following striking results come out: In amputations for chronic disease of knee-joint in patients under 20 years of age, out of 69 cases 3 only died, being 4.3 per cent., or 1 in 23. In excisions for similar cases and same age, out of 97 cases 27 died, or 27.8 per cent., or 1 in 3⅗. In amputations between 21 and 40, out of 119 cases 3.38 died, or 32 per cent., or 1 in 3. In excisions out of 74 cases, 39 died, or 52.7 per cent., or more than 1 in 2, the difference being 20 per cent. against excision. Admitting excision to be a good operation, do the advantages justify the extra risk? Mr. Bryant thought not; he also considered an early operation the most successful; it should not be performed when an operation is demanded to save life, only when local disease is steadily progressing in spite of treatment. In conclusion,

Mr. Bryant hoped the advocates of excision would recognize the results of experience, and not shut their eyes to those cases that tell against the operation, the point to be settled being the period of the disease in which excision should be undertaken as an operation of expediency. Mr. Bryant is inclined to think that excision may not only be a justifiable, but successful operation.

Art. 227.—*On Resection of the Knee.*

By M. Pénières.

(*Thèse de Paris*, 1869; and *Archives Générales de Médecine*, Mai, 1870.)

M. Pénières in his inaugural work offers an excellent study of the subject of resection of the knee. He insists, with Butcher and Price, upon the advantages attending excision of the patella: this proceeding shortens the duration of the treatment, is useful with regard to the future utility of the limb, and also diminishes the mortality of the operation and reduces the chances of consecutive amputation.

In considering the cases in which resection of the patella has been practised, the author remarks that the preservation of this bone doubles the risks of secondary amputation, whilst its excision diminishes by almost one-third the risks of mortality.

After remarks upon the indications for the operation and the methods of performing it, M. Pénières gives the results of 431 cases of resection for acute swelling: 300 patients recovered, 131 died, these numbers including the cases of amputation and re-excision. These tables give a mortality of 30.3 per cent. The recent statistics of M. Lefort give with regard to mortality 29.7 per cent., and those of M. Lyon 28.6 per cent.

The mortality, which before the year 1852 had oscillated between 52 and 54 per cent., has since been always maintained at some point below 30 per cent., thanks to the perfecting of the proceeding, and especially to the more minute attention paid to patients before operating.

In these observations the sex is specified in 380 cases; out of 245 men operated upon 59 died (24.2 per cent.); with 135 women there were 50 deaths (37 per cent.). With the male sex then the mortality will be 13 per cent. lower than that in the opposite sex.

With regard to age the results were as follows:—

	Number.	*Successes.*	*Failures.*	*Proportion.*
From 1 to 5 years	18	11	7	38.8 per cent.
From 5 to 10 "	84	70	14	15.4 "
From 10 to 15 "	74	60	14	18.9 "
From 15 to 20 "	61	41	20	32.0 "
From 20 to 25 "	56	36	20	35.7 "
From 25 to 30 "	51	39	19	37.2 "
From 30 to 40 "	42	23	19	45.1 "
Above 40 "	17	9	8	47.0 "

In France resection has been performed 32 times with 14 recoveries and 18 deaths.

The causes of death were indicated in 89 instances; 32 patients died from pyæmia, 12 from phthisis. 17 from exhaustion, 13 from hemorrhage, 3 from meningitis; of the remainder 1 was carried off by osteomyelitis; 1 by the shock of the operation, or rather by visceral complications, as pneumonia and albuminuria.

The period of death is specified in 69 instances. Forty-four patients died in the first month, and of these, eleven in the first week either by hemorrhage or by acute accidents. The majority of the patients attacked by pyæmia died within the first fifteen days, the others mostly within one month; two only at a later date, at the sixth week and at the second month. Fourteen patients died between the second and fourth month from exhaustion. Beyond this last period ten other patients died from relapse of the disease.

The author then establishes by his tables the superiority of resection over amputation. The statistics give as the mortality of amputations of the thigh practised for chronic affections of the knee proportions varying from 32 to 62 per cent.

With regard to the results, statistics indicate that out of 431 resections there were 300 recoveries: 247 patients were cured without another operation, 47 by secondary amputation, 6 after re-excision. Out of these 247 cases the result was given as very good in 166 instances, as bad in 27. The mean duration of the treatment was from six to eight months.

Out of 61 patients upon whom consecutive amputation was performed 47 recovered and 14 died. This gives a mortality of 22 per cent.

Out of ten patients upon whom re-excision was performed 4 died.

In a second table M. Pénières collects all the cases of resection for anchylosis which he has been able to find in periodical publications. This table amounts to 32, and comprises only resections for pure and uncomplicated anchylosis. Death occurred in 4 instances, which gives a mortality of 12.5 per cent., a proportion that approaches very nearly to those of Heyfelder and Lyon.

According to the author, resection has been applied in two instances only for the removal of tumors from the knee. The operations were performed by Langenbeck and Gayet of Lyons, and were both fatal.

In the third part of his memoir, M. Pénières considers resection for injury of the knee; every one knows that it is especially with regard to wounds that resection has met with its chief adversaries. Military practice gives 3 cures in 20 cases, whilst in civil practice, on the other hand, there were three deaths out of 7 cases of operation.

The author concludes his work by recommending in cases of white swelling the preference of resection to amputation for patients between the ages of five and thirty-five years, provided that there are no complications, that the lesions are strictly limited to the articular extremities of the bones, and that they have not lasted too long, and have resisted all other modes of treatment.

Resection applied to the treatment of gunshot wounds has given very good results in civil practice; it should be preferred to amputation in cases where there is a decided localization of the injuries to the knee and no complications.

In military surgery fresh experiences are required before one can pronounce definitely upon the value of resection in the application to wounds produced by firearms.

For penetrating wounds opening the knee-joint to a great extent, resection has on some occasions been employed with advantage.

Amputation should be preferred for the treatment of malignant tumors of the knee.

Partial resection ought to be rejected, except perhaps that of the patella.

Art. 228.—*Retro-Curvation of the Knee.*

By Louis Bauer, M.D.

(*St. Louis Medical and Surgical Journal*, November, 1869.)

Dr. Louis Bauer records a most interesting case of this very rare affection. The subject, a strong and healthy young man, aged twenty-four, had, when a boy, been stabbed in the knee with a knife. While in bed with this injury he contracted scarlatina, the consequence of the two being prolonged suppuration of the joint. Ultimately, however, he began to improve, when he left his bed and insisted on being allowed to get about on crutches. For seven years his condition was variable. Ultimately he got strong and well, but with a bent knee, for during his illness he had been accustomed to support his limb by a leathern strap stretched from his shoulders to the point of his toes. The constant action of this drew the toes towards the body, and this tendency was perhaps increased by an early recourse to the use of a cane instead of crutches. While the plastic material in and around the joint was still soft and pliable,

the constant dragging upwards of the toes gave the limb a permanent set, and when afterwards he could put his foot to the ground, the set would be increased till the bone had hardened. When he came under observation the leg projected forward, so that both thighs being horizontal, as when seated in a chair with the feet raised, the affected foot rose in the air nearly at a right angle. No operation had been performed at the above date. Dr. Bauer proposed resection.

ART. 229.—*A Case of Compound Fracture of the Patella; with an Analysis of fifty-six Cases of that Injury.*[1]

By A. POLAND, F.R.C.S., Surgeon to Guy's Hospital.

(*British Medical Journal*, January 22.)

In presenting the case to the notice of the Society, the author drew attention to the following facts: 1. The peculiar and unusual nature of the accident; 2. The attempt to save the limb under circumstances most disadvantageous, owing to physical and moral defects; 3. The unfortunate relapse and threatening symptoms of pyæmia, after the primary danger of an inflamed and suppurating joint had passed over; 4. The chest-complication and exhaustion of the patient after subsidence of the pyæmic symptoms; 5. The saving of life by amputation of the limb.

G. M., aged twenty-eight, a boiler-maker, was admitted into Guy's Hospital on January 19th, 1869. About eight weeks previously, a transverse lacerated wound over the right knee was produced by a fall; for this he was treated as an out-patient at the hospital. The wound was about three and a half inches in extent, and the patella was exposed, but the joint was not injured. Strapping and a back splint between the knees were applied. Cicatrization was almost completed, and he removed the splint and went about his employment. Early on the morning of his admission he caught his foot in a grating, and was thrown down on his side, in his fall using great muscular exertion to save himself. The newly cicatrized wound was torn open, and he suffered great pain. He was immediately brought to the hospital. There was a large gaping wound in the sight of the original injury, also a transverse fracture of the patella. There was hemorrhage, and escape of synovial fluid from the joint. The dresser on duty introduced his finger into the joint. The wound was closed by sutures, a compress of lint with strapping applied and a back splint adjusted behind the knee. When he came under Mr. Poland's notice he was suffering from a chronic cough and general debility, which gave rise to the suspicion of phthisis, although no evidence could be elicited by the stethoscope. In three or four days inflammation and swelling of the joint ensued. The dressings and sutures were removed, and carbolic acid lotion was applied to the wound, which had a sanious discharge. On the tenth day suppuration had fully set in, and the discharge was profuse. This suddenly lessened, and symptoms of pyæmia became manifest; but suppurative action in and about the joint reappeared, necessitating the use of free incisions. During a lingering and tedious suppuration, with ulcerative action for a period of six weeks, the man's health began to give way. Amputation was performed on the 5th of March. The patient made a most rapid recovery and gained flesh, although he did not lose his cough entirely.

The author made some comments on the peculiar nature of the injury, and referred to other cases of compound fracture of the patella. The patient's extremely exhausted condition and general state of health negatived the performance of excision, and the more so as the integuments and soft parts above and below the joint were much implicated in the suppurative action. The author also adverted to the statistics of fifty-six cases of compound fracture of the patella without any complication of the neighboring bones of the joint. Mr. Poland concluded by inquiring whether there could be a compound frac-

---

[1] Abstract of a Paper read at a meeting of the Royal Medical and Chirurgical Society held January 11th.

ture on the patella without a wound or lesion of the knee-joint? He had made some experiments which led him to believe that there could.

Mr. Solly spoke of the treatment of fractured patella. He still adhered to the old plan of elevating the leg, so as to relax the rectus femoris muscle, and placing a splint behind.

Mr. Holmes doubted whether a compound fracture into the knee-joint was now held to be an absolute indication for amputation; such cases were, however, dangerous, and would very probably demand it. The paper would no doubt call attention to the feasibility of preserving the limb. He wished that more had been said about excision of the patella in compound fracture—an operation which he believed had been performed by Dr. Humphry, of Cambridge. He was very sceptical as to the possibility of a compound fracture of the patella occurring without the joint being opened. Resection ought to be avoided in compound fracture of the patella; the injury was almost always, after childhood, one which required amputation.

Mr. Brooke said, that the deficient supply of blood to the lower part of the patella must cause repair to be very slow. It often happened that when a patient was sent out six or eight weeks after fracture of the patella, the ligamentous matter forming the union became stretched. This was to be obviated by causing a splint to be worn behind the joint for some time.

Mr. Burkett had seen only one case of compound fracture of the patella in Guy's Hospital, under the care of the later Mr. Aston Key. A men fell from a wharf into a barge containing iron, striking the centre of the patella on a piece of iron. This was his only injury, and the case did well. That the joint was opened was proved by some gentlemen who introduced their fingers into it through the wound. There was scarcely any constitutional irritation. The treatment consisted of the application of many leeches, with rest and extension. The man afterwards worked long at the same wharf, having perfect power of motion in the limb. In a case under his own (Mr. Birkett's) care, a man had received a wound a little below the patella; the capsule became distended with blood, some of which could be squeezed out. This patient also did well; he therefore hesitated to decide on amputation, especially when the unfortunate results of secondary amputation were remembered. He thought elevation of the limb not essential in cases of ordinary fracture of the patella.

Mr. Moore said that a splint behind the limb was even more necessary when the patient was allowed to walk about than when he was confined to bed. The idea of producing relaxation of the rectus by elevating the limb was erroneous. His knowledge of compound fracture of the patella was very limited. He had seen a case in which a man fractured both patellæ, and recovered. A second fracture of both bones was followed by recovery. After a third fracture of one of the bones, suppuration and death followed.

Mr. W. Adams said that the interest of fracture of the patella lay in the amount of injury done to the joint. Incised wounds of the knee-joint had done well, but with lacerated and contused wounds there must be danger. The choice between excision and amputation must depend on the amount of injury of the soft parts. If there were not much injury excision might be done.

Mr. Cooper Forster said that Mr. Poland was prevented from being present, having been called to a patient. He did not think that compound fracture of the patella could occur without laying open the knee-joint.

Art. 230.—*On Amputation at the Knee-Joint.*[1]

By G. D. Pollock, F.R.C.S., Surgeon to St. George's Hospital.

(*Medical Times and Gazette*, December 25, 1869.)

The author commenced by drawing attention to the circumstance that amputation at the knee-joint had not been very favorably entertained until within the last thirty years, and that only very lately had it been much advocated. Having

[1] Abstract of a Paper read at a meeting of the Royal Medical and Chirurgical Society Tuesday, December 14.

himself performed the operation in several cases with satisfactory results, he desired to bring his experience before the Society.

After referring to the practice of Mr. Syme and of Mr. Samuel Lane, the author proceeded to say that, in the consideration of amputation through the joint, two conditions must be borne in mind—first, if there be disease of the joint and ulceration of the cartilages after the leg is taken off, the articular surfaces of the condyles and patella should be removed; secondly, if no disease of the joint exist, but amputation be requisite on some other account, then the articular cartilage should be left intact.

The author related the particulars and results of eight cases in his own practice, and quoted communications received from other English surgeons. From various sources he had been able to collect 48 cases operated upon in England. These showed a gross result of 36 recoveries and 12 deaths. A collection of American cases showed 32 recoveries and 13 deaths, thus giving a total mortality of 26.88 per cent.

After some further account of American experience in the matter, the author proceeded to describe the improvement suggested by Mr. Carden, of Worcester, of making the flap of skin taken from the front of the leg. He himself approved of the suggestion. The anterior flap should be long enough and broad enough to cover the whole of the exposed end of the femur. It should be so broad at its base as to be at least two-thirds of the circumference of the joint, the posterior flap at its base forming the other third. The author lays stress upon the anterior flap being of sufficient length (at least five inches below the lowest point of the patella), and is inclined to leave the patella in the flap when the joint is healthy. When it is diseased he recommends the removal of the articular surface alone. The comparison between the stump usually obtained after amputation through the thigh, and that obtained after amputation through the knee-joint, is very much in favor of the latter, which is never conical or retracted, and is superior in strength and fitness for locomotion, in comfort and freedom from pain, and in capability to bear weight and endure exertion. It is also more easy to adapt a good serviceable artificial leg to such a stump. In conclusion, the author thought the facts he had brought forward, although not enough to lead to positive conclusions, were enough to commend the operation to the favorable consideration of the Society.

ART. 231.—*Amputation at the Knee-Joint by Modified Lateral Flaps.*

By STEPHEN SMITH, M.D., Surgeon to the Bellevue Hospital, New York.

(*American Journal of the Medical Sciences*, January.)

In several recent amputations at the knee-joint Dr. Smith has endeavored to combine the good feature of the long anterior flap and the lateral flaps, without their objectionable points. The operation is performed as follows: The incision is commenced about one inch below the tubercle of the tibia, and carried downward and forward over the most prominent part of the side of the leg, until it reaches the under surface, when it is curved towards the median line. When that point is reached, it is continued directly upwards to the centre of the articulation. A second incision begins at the same point as the first, and pursues a similar direction upon the opposite side of the leg, and meets it in the median line on the posterior part. The following precautions should be remembered, viz., the incisions should incline moderately forwards down to the curve of the side of the leg, to secure ample covering for the condyles, and that upon the internal aspect should have additional fulness for the purpose of insuring sufficient flap for the internal condyle of the femur, which is longer and larger than the external. In the dissection, the skin, fascia, and cellular tissue are raised, and the ligamentum patellæ divided, allowing the patella to remain. The ligatures are all drawn out of the posterior angle of the flaps.

This method of amputation need not be limited to the knee. The advantages of drainage, and the removal of the cicatrix from the face of the stump to its posterior part, equally adapt it to amputation in the leg or thigh. Dr. Smith has frequently amputated at both of these points by this method, and obtained

the most satisfactory results. The wound heals with remarkable rapidity, and the final perfection of the stump leaves all that can be desired.

Art. 232.—*Fractures of the Femur.*

Under the care of Mr. T. W. Nunn, at the Middlesex Hospital.

(*The Lancet*, March 26.)

The difficulty encountered in satisfactorily deciding as to what is the precise nature of an injury to the upper segment of the femur is often very slight, but occasionally the reverse. When the age is between sixty and seventy years, or upwards, and the history of the accident is that the patient, a woman, let us say, has been knocked over by a rough lad in the street, or has stumbled, or has entangled her petticoats in some projecting object, and has fallen to the ground, losing the power to rise, and presenting eversion of the foot, with a shortening of the limb, the surgeon does not hesitate to conclude that he will find confirmatory symptoms of fracture of the neck of the femur, nor to give a prognosis in accordance with the well-known usual consequences of that distressing accident. On the other hand, where there is deformity about the region of the trochanter, great tenderness, some shortening, perhaps a good deal of constitutional disturbance, a clear, definite diagnosis cannot be pronounced off hand.

We lately saw the case of a pensioner, long since discharged from the cavalry. This man, whilst in the Crimea, and serving in a dragoon regiment, had his horse fall upon him. He remained lame, and consequently was unfit to continue in the army. About three months since he had a fall whilst walking, and was admitted under Mr. Nunn's care. The region of the trochanters on the left side was so tender that the patient could not bear handling without flinching. There was some slight real shortening, and besides, more apparent shortening from the position of the pelvis. There was no crepitus. It was therefore not easy to say what was due to recent injury, and what share the other accident had in the then existing state of matters. The patient, we have now to add, rapidly recovered his previous condition by simple and soothing remedies, no splint being employed.

At the present date there is a male patient in the Clayton ward, also a pensioner (from the Guards). He is seventy-two years of age. There is obviously mischief, from a fall, about the upper portion of the right femur; but he is the subject of a most extreme form of gouty deposit in the sheaths of tendons, and in the bursa, so that a source of obscurity again comes in the way. There is considerable swelling over the front and outer side of the thigh-joint, below the anterior superior spinous process of the ilium. As is commonly the case in fractures in old people with specially damaged constitutions, grave indications of failing power, in the shape of a dry, brown tongue, and proneness to bed-sores are showing themselves, and a favorable result is hardly to be anticipated.

Mr. Nunn pointed out to us these cases as interesting subjects of speculation. He, however, dwelt longer over the beds of patients with simple fracture of the femur. One was the case of a policeman who had been run over by a wagon, and had fracture at the middle of the shaft by direct violence; another, that of a painter, who had fallen from an inconsiderable height, and had simple fracture, also of the middle third, by indirect violence. In both of these cases the ordinary long splint was used. Mr. Nunn said that it was impossible to be too watchful in the treatment of cases of fracture of the lower extremity, especially of the shaft of the femur; for it was alleged by some surgical writers that shortening always was to be detected after the patient was supposed to be cured. When it is remembered that, with a fracture of the thigh, the patient must look forward to eight weeks, more or less, in bed, the very duration of the treatment is a reason for care, as without carefulness the attention of the surgeon is, during the lapse of such a period, sure to be attracted to fresher and more obtrusive cases. It is during the third and two following weeks of splint-wearing that Mr. Nunn insists on the most vigilant watch being kept over the extension, and upon the tape measure being constantly employed.

PART III.—MIDWIFERY.

MIDWIFERY AND DISEASES OF WOMEN AND CHILDREN.

(A) CONCERNING PREGNANCY AND PARTURITION.

ART. 233.—*The Induction of Premature Delivery as a Prophylactic. Resource in Midwifery.*

By T. GAILLARD THOMAS, M.D., Professor of Obstetrics and the Diseases of Women and Children, in the College of Physicians and Surgeons, New York.

(*New York Medical Journal*, February.)

The author's impression is, that nothing will in the future tend to diminish the mortality attendant upon parturition so markedly as the induction of premature delivery for the removal of mother, child, or both, from that condition upon the continuance of which depends the danger which menaces them.

In this essay Dr. Thomas makes a marked distinction between premature labor and abortion. The former denotes a premature expulsion of the contents of the uterus; the latter, a failure in the results of utero-gestation. Consequently, the induction of premature labor is in one essential respect different from that of abortion, and is called for in the fulfilment of different indications. The former, being resorted to after the period of viability of the child, does not involve the sacrifice of its life, but often adds to its prospect of living by removal of it from a position of danger, and sometimes even of certain death; or, to put the matter more tersely, abortion is resorted to in the interest of the mother alone at the expense of the life of the child: premature labor is induced sometimes for the sake of the mother, sometimes for that of the child, and sometimes in the interest of both.

The following list presents the morbid states for which Dr. Thomas considers the operation indicated:—

1. Deformity of the pelvis.
2. Placenta prævia.
3. Aggravated uræmia.
4. Excessive vomiting.
5. Placental apnœa.
6. Commencing epithelioma.
7. Death of child and consequent septicæmia.
8. Threatened death of child.
9. Approaching death of mother.
10. Amniotic dropsy.
11. Previous rupture of uterus or performance of Cæsarean section.
12. Excessive accidental hemorrhage.
13. Previous difficulty in deliveries of large children, or of children with ossified sutures.
84. Tumors obstructing the pelvis.

From this enumeration of indications for the induction of premature delivery, Dr. Thomas has intentionally excluded a number which call for abortion, but not for the procedure which now engages attention. He has likewise, for the purpose of avoiding prolixity and a spurious show of completeness, omitted the enumeration of certain rare conditions which might call for it, but would in all probability never do so. As examples of such indications to the author he mentions the existence of ovarian and fibroid or fibro-cystic tumors in the abdo-

men; the differentiation of an extra-uterine pregnancy from a tumor, &c. The ground left untouched in the list given may be covered by two general statements: first, any condition threatening the life of mother or child after the period of viability, which could be removed by premature delivery, would call for its induction; second, any obstruction existing in the true pelvis which would allow the passage of a child that has not arrived at the full period of intra-uterine life, and would prevent the exit of one which has reached the end of the ninth month, without mutilation, would prove a valid indication.

Deformity of the Pelvis.—It is difficulty to say what degree of deformity calls for the procedure, but in general terms it may be stated that, wherever it is estimated, or, as is far better, where it is proved, that a child at full term cannot be delivered except by instrumental or manual means, premature delivery is called for. Still speaking generally, the normal length of the shortest diameter of the pelvis is 4 inches; between this and 3 inches is the domain of the forceps; between 3 inches and 2½, that of version; between 2½ and 2, that of craniotomy; and under 2 inches that of the Cæsarean section. Dr. Thomas does not argue as to the propriety of preferring premature delivery to the terrible risks attendant upon the graver of these procedures, for all will admit it. He takes a position which will be less freely acknowledged when he states that so safe is the premature and artificial delivery of a child at the eighth or eighth and a half month of utero-gestation, by our present methods, that it should be preferred to delivery by the forceps at the tenth menstrual epoch. But under the last circumstances the necessity for interference must be established, not by measurements, which do not display slight contraction; it must have been proved by past experience with the particular patient whose case engages attention.

For such a condition as that which Dr. Thomas has depicted he has twice induced premature delivery. One of these cases will suffice as illustrative of his proposition:—

I was requested in the month of March last, by Dr. Wm. B. Bibbins, to see with him Mrs. McD., an Irishwoman, aged thirty-six years, who had been married seven years and borne four children. She gave the following history of her labors. The first child, a small girl, was delivered at full term by the forceps, by Dr. Ramsey. She was in labor, she says, four days. This child lived for one year. The second child was a larger girl, which was delivered by forceps, and was still-born. The third was delivered by version, by Dr. Gillette, and was still-born. The fourth was delivered by myself in consultation with Dr. Bibbins, by version, and was still-born. She was now pregnant for the fifth time, and was extremely solicitous for a living child. With Dr. Bibbin's consent, I promised her that delivery should be brought on in three weeks from date, when she would be at the end of the eighth month of pregnancy. A careful examination of the pelvis convinced me that it was a *justo minor* pelvis, but one not relatively deformed.

On the appointed day Dr. Bibbins, Mr. Hall, a student of Dr. B., and myself, met at the house of the patient, and proceeded to bring on delivery in the following manner: we placed the patient in the obstetric position, with a tub of warm water under the edge of the bed, and for half an hour showered the os freely. At the end of that time I put in Barnes's smallest dilator, and in an hour the os was fully dilated, and the bag of membranes presenting; no labor-pains came on, and in twenty-four hours we met again, and I used the warm douche for a half hour, dilated the os fully with the largest dilator, and introduced a No. 6 gum-elastic catheter between the membranes and the uterus, up to the fundus. In twenty-four hours we met again, and to my surprise, found that no uterine contraction had occurred. The catheter was now removed and inserted upon the other side, an enema of salt water was thrown into the rectum, and the largest dilator again introduced. We waited over an hour, and still there was no uterine effort. Slight hemorrhage from the uterus now occurred upon removal of the dilator, and fearing for the child I proposed at once to deliver it. Dr. Bibbins consenting, the patient was anæsthetized, and, passing the hand into the vagina, and two fingers into the uterus, readily delivered a vigorous boy, who has since done well, as has also his mother. I have met with but one other case—one, by the way, which was coincident as to time with this one, in which it was so difficult to excite uterine contractions.

Placenta Prævia.—Dr. Thomas's conviction is that, in every case of declared placenta prævia, premature delivery should be induced. What objections can be urged against it, other than that a child of less than nine months of intra-uterine life does not have as good a prospect of life as one which has arrived at full term? In the case which we are considering, even this falls to the ground, for an eight-months child out of the uterus, and depending upon pulmonary respiration, has a brighter prospect for life than one in that cavity depending for aëration of its blood upon a crippled and bleeding placenta. For the mother, how incomparably greater the safety which attends an emptied and contracted uterus! By inducing delivery during the ninth month of pregnancy, we should be dealing with a woman who is not exhausted by repeated hemorrhages; we would be in attendance at the moment of cervical dilatation, and consequently the moment of danger; and we would be able by hydrostatic pressure to control hemorrhage in great degree, while at the same time dilatation of the cervix, which constitutes the period of maximum danger, may be rapidly accomplished.

Dr. Thomas has induced premature delivery for placenta prævia four times, and, as the subject appears to him of paramount importance, he gives details of all the cases:—

Case 1.—Mrs. W., aged twenty-six, primipara, in good health, was suddenly taken with hemorrhage three weeks before full term. She sent for me in great haste, but being occupied, I was unable to go to her, and she was seen for me by my friend Dr. Reynolds. He discovered that she had lost a few ounces of blood, but that the flow had ceased. Three days afterward she was again affected in the same way, the flow ceasing spontaneously. About a week after this, she was taken during the night with a flow, which was so profuse as to result in partial syncope when she endeavored to walk across the room. I saw her early the next morning, found her flowing slightly, and, upon vaginal examination, succeeded in touching the edge of the placenta through the os, which was dilated to the size of a ten-cent piece. Later in the day, Drs. Metcalf and Reynolds saw her and agreed in the propriety of premature delivery. In accordance with this consultation, at 7 P. M. I introduced into the cervix, with considerable difficulty, and by the employment of some force, the smallest of Barnes's dilators. This in twenty minutes was followed by the next larger dilator, and in an hour by the largest. Dilatation was rapidly accomplished, but, instead of removing the largest bag, I left it in the cervix untill 10 o'clock that night. Expulsive pains coming on at that time, I removed it, when the head rapidly engaged, and before morning Mrs. W. was safely delivered of a living girl. The placenta followed rapidly, and both mother and child did well.

In this case, although hemorrhage continued slightly throughout the labor, it was never sufficiently profuse to endanger the lives of either mother or child. The implantation of the placenta being lateral, diminution of the flow occurred as the head advanced, and made firm pressure against the bleeding surface.

Case 2.—Mrs. D., a lady over forty years of age, whose last pregnancy had been completed fourteen years previously, was placed under my care by Dr. Metcalfe. She was an excessively nervous and hysterical woman, but in good health. About three weeks before full term she was taken with hemorrhage, which lasted for very short periods, recurred at intervals of four or five days, came on without assignable cause, and ceased without remedies. The cervix was not dilated, and no physical signs of placenta prævia could be detected either by vaginal touch or auscultation. Dr. Metcalfe saw her in consultation, and, as all the rational signs of placenta prævia were present, and our patient was suffering from the repeated losses, and was becoming extremely nervous and apprehensive, we concluded to bring on premature delivery. Accordingly, at 11 A.M., I introduced a large sponge-tent into the cervix, and at 3 or 4 P.M. removed it, and succeeded in inserting Barnes's smallest dilator. At 9 that night the cervix was fully dilated at the expense of very slight hemorrhage, and Dr. Metcalfe then being present, I removed the bag, intending to leave the case to nature, provided no flow occurred. Previously, during the evening, upon changing the bags, I had distinctly touched the head as the presenting part, but now, to my surprise, I found that the bag impinging on this part had caused the child to revolve in the liquor amnii, and that the breech was now within the os.

We decided under these circumstances to deliver at once. The patient being put under the influence of ether, I drew down the legs and delivered a living female

child. The placenta followed in fifteen minutes, and both patients did well, the child rapidly recovering from an injury to one of its legs, received during delivery.

In this case the placenta was very nearly centrally attached. At one side of the os internum, a space of only two fingers' breadth was free. Through this, digital examinations were made, and the hand pushed to seize the feet. The first stage being accomplished by means of the hydrostatic dilators, no hemorrhage attended it; but, without this means having been employed, it is highly probable that profuse and dangerous flooding would have occurred.

Case 3.—Mrs. P., a multipara, aged thirty-eight, had advanced without any unfavorable symptoms, to the middle of the ninth month of pregnancy. At this period, while sitting, at 9. P.M., in her parlor, engaged in some light needlework and in conversation, she suddenly felt a free flow of blood pouring away from the vagina. in a few moments she became very much exhausted, and was lifted up by her husband and carried up stairs to bed. I saw her within an hour after this, and found her still losing blood to a slight extent. Her pulse was very rapid and weak, and her face extremely pallid. It was estimated that about one quart of blood had passed, though this was of course uncertain.

As the flow had ceased after I had kept the patient quiet for an hour, I left the house, promising an early visit in the morning. Upon this visit I found her doing well, though somewhat exhausted. Feeling satisfied, from the great amount of flow, and the fact of its having occurred without any exciting cause, that placenta prævia existed, I now explained the state of affairs to my patient's husband, and requested Dr. Metcalfe to see her in consultation. He agreed with me that the probability of the safety of both mother and child would be greatly increased by at once inducing premature delivery, and at 9 that night I set about accomplishing it. At 9.30 exactly, in the presence of Dr. Metcalfe, I introduced into the cervix the smallest size of Barnes's dilators, and at 10.30 the os was fully dilated. So long as the bag was retained in the cervix, no hemorrhage occurred, but on the instant of its removal a flow took place. Under these circumstances it was thought best to deliver at once. The patient being put under the influence of chloroform, I performed bimanual version, and with great ease delivered a living child. The placenta soon followed, and mother and child recovered without an unfavorable symptom.

In this case, delivery was accomplished in one and a half hours from the commencement of the effort, and the process was inaugurated just twenty-four hours after the development of the first symptom of danger. The flow which constituted this symptom was so sudden that it was thought that great danger would attend delay, uncompensated for by any corresponding advantage. After full dilatation and removal of the dilator, Dr. Metcalfe examined and found a very large piece of placenta hanging out of the os uteri, and thus the diagnosis was proved to have been correct.

Case 4.—I was called on the 11th of November, by Dr. Keeney, to see with him Mrs. R., a multipara, aged twenty-three years, who was nearly at the end of the seventh month of pregnancy. About one week before our visit, she had been suddenly seized with quite a profuse hemorrhage, which had rapidly diminished, but never completely disappeared. The nature of the flow, which occurred by sudden gushes, and in great profusion, led us to the conclusion that it was due to placenta prævia, but as the period was not favorable to the viability of the child, we determined to avoid interference until the eighth month, if possible. The patient was accordingly kept perfectly quiet in bed, and all effort avoided. For two and a half weeks this plan appeared to succeed, and we had strong hopes of reaching a period when both child and mother might be rescued by premature delivery. When the seventh month and one week of the eighth had passed, the flow returned, and continued so steadily that, to our regret, we were forced to empty the uterus in the interest of the child, who was evidently becoming much enfeebled by gradual placental detachment, and of the mother, who likewise felt the loss of blood very perceptibly.

At this period Dr. Keeney and I met at the patient's house at 8.30 P.M. At twenty minutes before nine I introduced Barnes's smallest dilator. At ten minutes after 9 the os was fully dilated, and I, introducing my hand, readily delivered a living

child by version. The child was evidently very feeble, and, although at once wrapped in cotton and surrounded by an atmosphere heated to 95°, it lived only about nine or ten hours.

In this case, as soon as the os was fully dilated, the placenta could be distinctly felt, and as Dr. Thomas passed up his hand he found that it was centrally attached. It is the only case in which Dr. Thomas has met with complete placenta prævia. The mother recovered without an unfavorable symptom.

Aggravated Uræmia.—The pregnant woman is peculiarly liable to a form of desquamative nephritis, which probably depends in part upon the hydræmia attendant upon utero-gestation, and in part upon direct pressure of the enlarging uterus upon the kidneys and their bloodvessels. This condition, which marks its presence by albuminuria, anasarca, and the cerebral and gastric symptoms ordinarily attendant upon uræmia, has been appropriately styled puerperal nephritis. Unlike ordinary nephritis, and like that which results from scarlatina, it is usually ultimately recovered from. When complicating utero-gestation, however, this form of nephritis proves the most fruitful of all the sources of convulsions, œdema of the lungs, and puerperal mania. It develops generally after the sixth month, and becomes aggravated as the uterus continues to enlarge and exert greater pressure upon the kidneys. Sometimes, however, it does not appear till the end of the eighth month, when the danger to the patient steadily increases until the uterus has been emptied. This condition often calls for premature delivery, in order that the woman's blood may not become more and more impure, as greater and greater pressure upon the kidney occurs; that the daily increasing risk of convulsions may be avoided; and that the child, in danger from the poison accumulating in its own as well as its mother's blood, may effect aëration by some other means than the contaminated placenta.

Dr. Thomas does not deem it essential to enter upon the subject of statistics as applied to the proportion of women affected by puerperal nephritis, who escape the evils which he has mentioned. He refers merely to a fact, that a large number of women, who suffer from all the symptoms of puerperal nephritis, escape those results of blood-poisoning to which he has drawn attention. Dr. Thomas does not advocate premature delivery merely because this complication of pregnancy exists. He divides all the cases of the affection into three classes:—

1. The class in which only a cloudiness of the urine develops under heat and nitric acid, and in which only slight anasarca and nervous disturbance exist. For this, no other interference is usually necessary than stimulation of the intestinal and cutaneous secretions, steady and systematic examination of the urine, and avoidance of tight clothing, nitrogenized food, and habits of luxury.

2. The class in which a copious deposit of albumen takes place under heat and nitric acid; anasarca to a moderate degree exists; and gastric and cerebral symptoms show the influence of retained renal secretions to such an extent as to create considerable annoyance. For this class the general management already indicated should be pursued; the urine should be carefully examined every third or fourth day during the last two months of pregnancy, so that any increase of renal congestion might at once be recognized as an indication for interference, and the patient be delivered under chloroform.

3. The class in which the urine treated by heat and acid undergoes almost complete coagulation; excessive anasarca exists; the stomach, brain, and nervous system sympathize; and tendency to coma is denoted by constant desire for sleep. So long as cases of the first class keep within their legitimate bounds, they do not call for premature delivery. Even while those of the second class keep within their limits, they may require it, but do not of necessity do so; but in the third class this resource will always offer itself as a haven of safety for both mother and child. To express this more concisely, Dr. Thomas would say that the first class *very rarely*, the second class *sometimes*, and the third class *always*, calls for the induction of premature delivery.

For this indication Dr. Thomas has induced premature delivery three times. All the mothers recovered and two of the children. One child was known to

be dead at the commencement of the process. Subjoined are short notes of these cases:—

Case 1.—Mrs. B., a multipara, aged thirty-two, had lost her father, mother, and one sister of Bright's disease, and in her only previous labor had suffered from convulsions, caused by puerperal nephritis. She advanced quite well to the seventh month, when suddenly the gravest symptoms of uræmia developed themselves. By general management she was carried to the end of the eighth month, when she could without straining the point at all be classified in my third group. At this time I used the warm douche at mid-day, separated the membranes by a silver catheter two hours afterwards, and at 6 P.M. introduced Barnes's middle-sized dilator. At 7 P.M. this was removed, and a gum-elastic catheter introduced to the fundus uteri. This soon excited labor-pains, and in three hours a large girl was born. The mother was delivered under chloroform. Both patients did well.

Case 2.— Mrs. W., a sister of the above, multipara, aged thirty, had been in a previous labor delivered by Dr. McClellan, of Brooklyn, of a living child by version; the operation being necessitated by convulsions, due to uræmia. Her urine was sent to me from Schenectady, at the seven and a half month. It coagulated under chemical tests, and I telegraphed her to come to New York. She did so, and although her symptoms placed her in my third class, I delayed interference until the end of the eighth month. At that time labor was induced as in Case 1. Mother and child did well, the labor only occupying about three hours, and coming on vigorously by use of the dilators alone.

Case 3.—Mrs. M., an Irish woman in the lower walks of life, primipara, in the seventh month of pregnancy. I saw her, in consultation with Dr. J. J. Connolly, on account of the most violent and constant puerperal convulsions, which had continued for four or five hours. She was very œdematous, and between the attacks perfectly comatose. Having no dilators at hand, we used the warm douche for half an hour; then, finding the os dilatable, I introduced two fingers into the uterus and performed bimanual version, delivering a still-born child. No fœtal movements had been detected for hours, and the fœtal heart had been inaudible. This woman recovered temporarily, but never got over the renal disease. About three years after this, I was called to see her by Dr. Vaughan, who had attended her in another labor. I found her giving all the evidences of uræmia, and suffering from violent mania, from which she died.

Excessive Vomiting.—This condition, usually existing as a morbid state before the fourth month, much more frequently demands abortion than premature delivery. Sometimes, however, it continues throughout pregnancy, or, as in the subjoined case, develops towards its close. Dr. Thomas has met with but one case, which has demanded the procedure which now engages our attention. The following notes were kept for the author by Dr. Sproat, house-physician of Bellevue Hospital:—

Case 1.—Honora Curtin, an Irishwoman, married, aged about thirty-one, a domestic, was admitted to Bellevue Hospital, June 8th, 1869, and in the absence of Dr. Elliot came under the care of Dr. Thomas, who was replacing him. On entering the hospital, she thought herself a little more than six months advanced in pregnancy, having menstruated last in December, 1868. Four days before entrance the patient was attacked with vomiting, which she at first attributed to abusive treatment by her husband, although she afterwards denied it. This vomiting had continued night and day, at intervals of not more than ten minutes. After her admission to the hospital, all nourishment was given by the rectum, as the stomach could retain nothing.

All efforts at controlling the vomiting having failed, and the patient becoming constantly weaker, on the evening of June 10th she was anæsthetized by ether, and premature delivery induced by Dr. Thomas. The os uteri was dilated manually, a single finger being first introduced, and afterwards two, which were then separated as widely as possible. The dilatation was completed by the use of Barnes's largest dilator, and the child delivered by traction upon the feet. The whole operation was accomplished in twenty minutes. The uterus contracted well, the placenta coming away immediately. The child was alive but survived only about four hours. The vomiting ceased on the second day after delivery, but the urine when tested gave signs of renal disease. The patient was discharged July 2d, apparently well.

Placental Apnœa.—In a certain number of women a fatty, calcareous, or syphilitic degeneration affects the placenta one or two months before full term, and in repeated pregnancies destroys the lives of the children. Under these circumstances, where the intra-uterine lung, the placenta, becomes decrepit and inefficient, the indication for premature delivery, which enables the child to breathe by air instead of fluid, to live like a mammal and not like a fish, is very clear. The symptoms which notify the obstetrician when to interfere are: enfeebled movements on the part of the child, enfeebled heart-beat, and approach of the time when previous infantile deaths have occurred.

Commencing Epithelioma.—Pathologists now draw a broad line of distinction between the two great varieties of malignant disease which may affect the tissues of the uterus. First, we have true cancer, the removal of which is useless, because it invariably returns; and second, we have epithelioma, which, if removed in its earliest stages, may never return. Either form may develop in the pregnant uterus. If it be the latter which is discovered, it is recommended to empty the uterus and amputate its neck. Dr. Thomas has never done this; but to give a clinical example of its performance, he avails himself of a case presented by his colleague, Prof. Jacobi, before the New York Obstetrical Society, and published in the proceedings of that body:—

"Dr. Jacobi presented a specimen with the following history: In July last, a woman eight months advanced in pregnancy (primipara) was admitted to the lying-in department of the Nursery and Child's Hospital. As is the rule in that institution, she was examined on admission by the touch and with the speculum. The house-physician, observing through the speculum a peculiar discoloration of the cervix, called the attention of Dr. Jacobi to the appearance. Dr. Jacobi found the cervix short, broad, and soft, the os being patulous, so that the finger could easily reach the os internum and touch the membranes.

"Through the speculum the part presented a grayish-white appearance, resembling the cauliflower cancroid. It bled readily when touched, and quite freely on the removal of a small piece for examination. Under the microscope it was seen to consist almost entirely of cells, mostly large pavement epithelial, and some spindle-shaped and smaller cells, a large amount of granular detritus, and spherical corpuscles inclosed in masses of concentric fibres. There could be no doubt that it was a papillary growth of the kind known as cauliflower excrescence.

"Dr. Jacobi determined to induce premature labor at once, with a view to the removal of the diseased part as soon as possible after delivery. He did not deem it safe to allow the woman to go her full time, lest, on account of the physiological congestion of the womb, and its rapid development at this period, the disease should advance, *pari passu*, and grow to such an extent as to greatly imperil, if not destroy, the chances of entirely removing it. He at once introduced his hand, turned, and delivered, the whole process being accomplished in about fifteen minutes.

"To lose no time, ten days after delivery, Dr. Jacobi proceeded to remove the diseased cervix. It was drawn down with great difficulty, and with the assistance of Dr. Guleke he succeeded, after numerous failures and the destruction of several wires, in encircling part of it with the galvano-caustic wire, and removing portions of the diseased mass. When it was no longer possible to remove any more in this manner, the olive-pointed galvano-caustic iron was applied to what remained of the cervix, and its destruction effected in this way. The patient recovered well after the operation, and was seen by Dr. Jacobi only a few days ago. He found, on examination, the cervix entirely gone, the uterus measuring about an inch and five-eighths in length. The cicatrix was smooth and firm, and the general health of the woman quite good. There was not light enough on this occasion for examination with speculum. The patient has menstruated since the operation."

Death of Child and Consequent Septicœmia.—When a child dies *in utero* during the latter months of pregnancy, it is often retained, usually without injury to the mother, until full term, and then expelled. So surely may we calculate upon this issue, that interference is not considered justifiable. In

rare cases, however, great constitutional disturbance is set up, and a low grade of blood-poisoning demonstrates its presence. Dr. Thomas has met with but one instance of this, which he gives in illustration:—

Case 1.—N. P., a handsome young American woman, aged about twenty-five years, the mistress of a gentleman of this city, sent for me at the eighth month of pregnancy. I found her suffering from hectic fever which came on every afternoon, and which was followed by a profuse sweating, which lasted all night, saturating her night-clothes, and exhausting her excessively. Upon examination I found that she carried a child *in utero*, which was evidently still, and, as she positively asserted, had been so for a month. Strongly suspecting that a criminal delivery had been attempted at the seventh month, which had failed to produce expulsion, but succeeded in destroying the life of the fœtus, I refused to interfere, but watched the case for two weeks. At the end of this time the patient was so much prostrated by constant vomiting, profuse sweating, and recurrent attacks of fever, that I feared to delay longer, and at the eighth and a half month brought on delivery. A putrid child was expelled, upon which I could discover no signs of injury. After delivery the mother was very ill with obscure typhoid symptoms, but ultimately entirely recovered.

Threatened Death of Child.—Dr. Thomas has already stated that in women who habitually suffer from disease of the placenta, and in consequence bear still-born children, the induction of premature delivery is decidedly indicated. If the life of the viable child be threatened from any other cause, the same remark holds true. The following conditions are examples of those which most frequently call for the operation in this connection: Accidental hemorrhage or uræmia existing in such degree as not to endanger the mother, but to jeopardize the life of the child; a blow upon the abdomen; a fall, exerting its direct force upon any part of the body, and by *contre-coup* affecting the uterus and its contents; or any other influence which impairs the safety of the child without seriously implicating that of its mother. Dr. Thomas gives one instance in which the operation was resorted to for the fulfilment of this indication:—

Case 1.—Mrs. P., a healthy multipara, had advanced to the seventh month of pregnancy without developing any unpleasant symptoms, when suddenly all those which I have enumerated as bringing a case into my second class under the head of uræmia presented themselves. Dr. Metcalfe, who now saw her with me, agreed in the propriety of limiting our treatment to general means, and keeping the case under strict supervision until the eighth month was arrived at. Then, if indications pointed to the necessity of delivery, it was to be induced. I saw the patient twice or three times every week, examined the urine regularly, and saw with pleasure that no increase of bad symptoms occurred. About one week before the end of the eighth month, Mrs. P. sent for me and told me that the movements of her child were becoming very feeble, and that she felt sure it was growing weaker daily. I found the fœtal heart almost inaudible, and could discover no movements of the fœtus upon prolonged examination. Dr. Metcalfe saw her on the next day, and, corroborating these observations, advised immediate delivery. We accordingly met at the patient's house at 8 P.M., and, after using the warm douche for half an hour, I introduced the smallest of Barnes's dilators, and in an hour the first stage of labor was accomplished. But the uterus could not be excited to action for a length of time, even by the most energetic urging. Uterine catheterization and the use of stimulating enemata failed to cause the second stage to inaugurate itself. On the next day, however, about 10 A.M., uterine contraction occurred, and a male child was easily and rapidly expelled. To my great disappointment it was still-born. The fears of the patient had evidently been well founded, and interference had come too late, prompt as it was.

Approaching Death of the Mother.—Dr. Thomas draws attention to the fact that he does not, in stating this indication, speak of threatened death or prospective death. From his stand-point he is supposing the mother beyond the hope of recovery, and in such a condition that the vitality which remains to her may be legitimately exhausted in an effort to save the life of her offspring. As examples of this condition Dr. Thomas would enumerate the last stages of phthisis, cancer, aneurism of the aorta, Bright's disease (not puerperal nephritis), cerebral disease, &c. In illustration the following is given:—

Case 1.—Mrs. C., a multipara, weighing about two hundred pounds, forty years of age, and previously in perfect health, sent for me very hastily, in the absence from the city of Dr. Metcalfe, her ordinary attendant. I found her in great trepidation, crying, and declaring that she was sure she was going to have a fit, from the fact that she had suddenly been taken with a violent headache, vertigo, ringing in the ears, and disordered vision. The flowers which constituted the carpet pattern were, she said, rapidly revolving, so that she dared not look at them. Her pulse was full and bounding, face suffused, eyes projecting, and vessels of the neck distended. She lived very near my residence, and, obtaining a phial of her urine, I hastened home to test this and get a lancet. In twenty minutes I returned to her house, and found that in the short time of my absence she had had one violent convulsion. This had evidently caused the rupture of one of the vessels of the brain, for almost complete hemiplegia existed. Drs. Edward Delafield and Charles Henschel at this moment entered the room, and with their sanction I drew about a quart of blood from the arm, but Mr. C. remained comatose and hemiplegic. No other convulsion occurred, all the symptoms pointing to serious organic lesions in tha brain, and the patient behaving like one in ordinary apoplexy. Dr. Metcalfe returned in forty-eight hours, and took charge of her, I seeing her only occasionally. On the fifth day of the attack it was evident that she was sinking rapidly, and as the child, which was just at the seventh month of intra-uterine development, was living, it was determined to deliver it. In accordance with the decision, I easily and rapidly dilated the cervix with Barnes's dilators, performed bi-manual version, and delivered a living child, which has since grown to be a large and very vigorous girl. The mother, who was completely comatose and almost moribund at the time of the operation, died in the course of twelve hours. I neglected to state earlier in the history that the urine which I obtained at the time of convulsion became absolutely gelatinous under heat and nitric acid.

In this case, as we felt sure that a cerebral vessel was ruptured, we did not bring on labor earlier for fear of increasing the effusion. It was finally induced at the expense of the rapidly-failing strength and prospects of the mother, in the interest of the child.

Amniotic Dropsy.—Sometimes the amnion, which ordinarily secretes a limited amount of fluid, takes on excessive action and distends to a dangerous degree the uterus, which, in consequence, interferes with the physiological action of the abdominal viscera, the diaphragm, lungs, and heart. The diagnosis of this condition is always obscure, but in some cases may be made by the existence of a very large and fluctuating uterus, great obscurity of sensation of fœtal movements by the examiner, excessive dyspnœa, and tendency to syncope. The diagnosis being made, the only means by which a continuance and increase of these dangerous symptoms can be avoided is the induction of premature delivery.

Previous Rupture of the Uterus, or Performance of the Cæsarean Section.—After traumatic solution of continuity in the uterine fibres perfect union may occur, and utero-gestation subsequently proceed to full term. But the violent efforts demanded from the uterine fibres for expulsion of the child make the risk of a second rupture very imminent. Where such an occurrence has taken place, therefore, it may become advisable to avoid prolonged effort during the first stage by accomplishing cervical dilatation by means of Barnes's dilators, and during the second by the forceps or bimanual version.

Previous Difficulty in Deliveries of Large Children, or of Children with Ossified Sutures.—When a woman has suffered in previons labors from one of these causes, the induction of labor two or three weeks before full term may alter the entire phase of the process and avoid dangers for both mother and child, which would otherwise be inevitable.

Excessive Accidental Hemorrhage, if not controlled, would prove not only dangerous to the mother, but to the child. When ordinary means do not check it, it would evidently be proper to empty the uterus prematurely, in the interest of both patients.

Tumors obstructing the Pelvis create in less degree the dangers attaching to deformity of this canal, and, for the same reasons which would warrant premature delivery under those circumstances, it would be indicated here.

In conclusion, Dr. Thomas recapitulates the cases reported, and makes a few

remarks upon the management of the prematurely-delivered child. His experience in the induction of premature delivery extends to thirteen operations. Of these—

2	were performed	for deformed pelvis.
4	" "	placenta prævia.
3	" "	uræmia.
1	was "	excessive vomiting.
1	" "	septicæmia.
1	" "	threatened death of child.
1	" "	approaching death of mother.

Of the children, ten were delivered living, of which number two died subsequently; one delivered at the sixth, and one at the seventh month. Of the mothers, one died. Of the three children delivered still-born, two were known to be dead before the operation was performed; and the mother who died was supposed to be moribund before interference was established.

One reason for the mortality of premature children is to be found in their inefficient heat-making powers. If such a child be washed, wrapped in flannels, and treated as one at full term ordinarily is, it may die, when a different plan might have saved it. Prevent a child at term from having its animal heat abstracted, and it will supply itself abundantly; but to the body of the premature child extraneous heat must be added to keep it from dying of cold. To carry out this idea practically, Dr. Thomas does not allow a premature-delivered child to be washed for a week or more, and always keeps it during that time in a temperature of from 90° to 95°, thus striving to let it feel as little as possible the change in the locality as far as this circumstance is concerned. It is difficult to do this unless every preparation be systematically made beforehand. The plan which Dr. Thomas follows consists in having a tin tub placed within one of larger dimensions, so that from three to four inches may everywhere intervene between the walls of the two. At the upper portion of the piece of tin which holds them together a funnel is fixed, and at the lower a spigot. Into the former hot water is occasionally poured; and, when removal is necessary, this is allowed to flow away from the latter. In the inner tub a large supply of cotton or wool is placed, and in this the child is enveloped and constantly kept until all fear as to its power of generating sufficient animal heat has passed away. Within this receptacle hangs a thermometer which indicates the temperature. No difference should be made in the management of the child in the hottest part of the summer. Even if the thermometer ranges at 95° in the room, these precautions are essential. When it is not convenient to obtain anything else, an ordinary basket, with bottles of hot water laid in the bottom, and filled with cotton or wool, will answer for the purpose of keeping the child warm.

But the prognosis as to the child must always be governed by its intra-uterine age. Little hope should be entertained if the delivery be brought on at or just after the seventh month; almost none should be indulged in before the seventh month, while a child delivered at or after the eighth month, provided its vital forces have not been depreciated by the abnormal state which has necessitated delivery, has, with proper management, almost as good a prospect of life as one arrived at full term.

The end of the eighth month, *i.e.*, the ninth menstrual epoch, is the most favorable time for the induction of premature labor.

ART. 234.—*Note of a Case of Rigid Os Treated by Hydrochlorate of Apomorphia.*[1]

By Dr. MILNE.

(*Edinburgh Medical Journal*, January.)

"In June last I was called to attend Mrs. S., Melville Terrace, in labor with her fourth child. On arrival I found she had been suffering for three or four hours, and the pains were pretty strong. The os was about the size of a sixpence, and rather hard. The head was below the brim. Previous labors natural and easy. Two hours after, on making a second examination, I was rather astonished to find that, despite pains of a second-stage character, little if any progress had been made. I introduced my finger within the os, and describing its circumference rather firmly, I found it intensely firm and resistant. I then placed the patient under the influence of chloroform, and commenced to dilate cautiously with the finger. Little good, however, was done by these means, for at the end of eight hours the os still remained about the same size I then procured a little tartrated antimony, giving two grains in two hours. This, though producing vomiting and ample nausea, secured neither the softening nor the expansion of the os. As the pains were continuing rather strongly, I administered twenty-five minims of liq. morph. hydrochlor., and left for some time. On returning three hours afterwards I found that matters were still much the same, the morphia neither having moderated the pains nor helped to reduce the induration of the os. Having brought with me a little hydrochlorate of apomorphia, I resolved on giving it a trial, being aware of its power as an emetic. A solution containing $\frac{1}{4}$ grain was given. In about ten minutes the patient vomited, and the pains were subdued a little, being less frequent and forcible. On examining again, to my delight the os had softened and expanded immensely, a single sweep of the finger serving to complete it. The pains redoubled their force, and in a few minutes more delivery was accomplished.

"*Remarks.*—Cases of rigid and unyielding os are familiar to most obstetricians who have seen much practice, and there are few of us but have spent many weary hours over instances of this kind. I would, therefore, not have thought of reporting it but for the fact that I obtained such efficient aid from a new drug, and that probably we have got a novel uterine relaxant of considerable power. I say probably because a single case can no more test a remedy—establish a rule—than a few green leaves can make a summer. It is true that the very rigid os relaxed in a twinkling almost after the apomorphia had time to act, as if the one were cause and the other effect; but then the other relaxants may have helped to pave the way, and the growing exhaustion of the patient may also have pioneered. Further trial is therefore requisite before we can laureate it much, and this I intend giving it as opportunity offers. If it should maintain its character as a uterine relaxant—the antipodes of ergot—and effectually throw open the door of the uterus in extreme cases, I need hardly say that we shall have obtained a drug of unspeakable value; for a fundus and body contracting powerfully, and an os refusing to expand, is about one of the most distressing complications in midwifery. It is a house divided against itself, a perilous antagonism, and has been fruitful of such deplorable results as inflammation, rupture of the uterus, convulsions, exhaustion, and death. For myself there are many other complications that I would prefer before it. The medicines that I employed prior to the apomorphia are those commonly used, and in general prove effectual; the chloroform and antimony, with a little fingering, proving a good tripod on which to rest in these cases. Here they were ineffectual. I may state that I have long since abandoned belladonna, from a conviction that however infallibly it may dilate the sphincter of

[1] Read at a Meeting of the Obstetrical Society of Edinburgh.

the eye, it is next to useless here. I have never bled in such cases, believing that the remedy is worse than the disease—that is to say, while you may secure in some cases the solution of the rigidity, you do it at a very great ransom; you enfeeble a patient already weak, and the subject of other causes and sources of debility. Incising the os is a line of treatment I have only once had the occasion to adopt, viz., in a case of cancer; and although it is supported by great names and warranted by considerable success, yet we have always the feeling that the incisions may go further than we desiderate, and that the patient may in consequence fare all the worse. Of course there will always cast up now and then cases beyond the power of medicine, and amenable only to the scissors or knife; but wherever medicaments can accomplish the work they ought to be employed because less beset with danger.

"I do not know that we can hope for much benefit from the apomorphia in cases of undeveloped os and cervix, such as in some cases of placenta prævia, at all events it ought to have a trial. Being also a sedative, it may in some instances lay an arrestment on the pains, the presence of which, until the os be dilated, is a source of peril. If it fulfil the twofold function of opening up the os uteri, and laying for a time an embargo on the uterine contractions, it will solve a difficult problem in this complication and confer inestimable good.

"In reference to the mode of administration of this drug, I may remark that it is much more powerful when injected into the cellular tissue. Were the stomach in any case, therefore, rejecting most things, it could be given by means of Wood's syringe."

ART. 235.—*On the Application of Electricity in Labor.*[1]

By M. DE SAINT-GERMAIN.

(*Gazette Hebdomadaire*, No. 48, 1869.)

The author has derived the following conclusions from his investigations on the use of electricity in labor:—

"1. In no case was I able to excite uterine contractions when these had not previously appeared spontaneously.

"2. Every time when labor had commenced and pains succeeded each other with intervals of a quarter of an hour or twenty minutes, the conductors having been applied to the sides of the abdomen, I constantly remarked, at about the end of ten minutes, a considerable amelioration of the uterine contractions.

"3. I have also made out that every contraction excited by electricity is longer and more painful than other contractions.

"4. Dilatation of the neck of the uterus seems to me to proceed constantly with rapidity under the influence of galvanic excitation.

"5. In every case the expulsion of the placenta immediately followed that of the infant.

"6. In two instances only did I observe upon the new-born infant a slight thick coloration; in one of these cases could the cyanosis be attributed to a well-marked circular constriction."

ART. 236.—*Successful Version after Failure of the Forceps.*

By J. BRAXTON HICKS, M.D., F.R.S.

(*Guy's Hospital Reports*, vol. xv.; and *British Medical Journal*, March 19.)

Seven cases are reported, of which, however, only six fairly come under this denomination, as the other case was one to which Dr. Hicks was only called when the woman was dying. The forceps and version had both been tried, and the latter proved successful only so far as to deliver the trunk *minus* the head; meanwhile the uterus was ruptured, and the patient only lived a few moments

---

[1] Communicated to the Société Impériale de Chirurgie.

after Dr. Hicks's arrival. The other cases may be briefly summed up as follows: All were head presentations, one of the face, and one partial brow. Only two were primiparæ; three others had had difficult labor, with dead children, with forceps or craniotomy, previously. In all there was considerable pelvic contraction, and the forceps failed after fair trial. Version proved successful in delivering all the mothers safely. Four of the children were born alive, but only lived a few moments. Considering the difficulties encountered, we think these cases are ample justification of Sir James Simpson's proposal, of which Dr. Braxton Hicks is an able supporter and exponent.

ART. 237.—*Successful Reduction of Prolapsed Funis by the Postural Method.*

By JOHN BRUNTON, M.A., M.D., Surgeon to the Royal Maternity Charity.

(*British Medical Journal*, December 18, 1869.)

The following case is narrated by Dr. Brunton:—

"On October 26th, 1869, I was called to attend Mrs. H., aged twenty-seven, in labor with her first child. She had been ill for ten hours, and her pains were active, occurring every few minutes. On examination, I found the os uteri dilated to the size of a crown-piece, the head presenting, a bag of membranes protruding, and in this bag was a loop of funis. This I deemed it proper at once to reduce, in case pulsation still existed, though I had not detected it through the membranes. Placing the patient on her knees in bed, with her head as low as she could put it, I partly introduced my hand into the vagina, ruptured the membranes, and just as pain came on I pushed up the loop (now about six inches long) alongside the head; and, as the head was pushed down by the pain, the cord was reduced. No prolapse afterwards occurred. Some hours afterwards, I delivered the child by forceps, on account of a very narrow pelvic outlet. The child was dead. The mother had not felt any fœtal movements for several days. The placenta was calcareous, and in some parts fibrous; during labor, as the liquor amnii escaped, it was thick with meconium. The mother made a good recovery. By withholding fluid, and allowing a liberal supply of ice to allay her thirst, little or no milk formed in her breast."

ART. 238.—*Case of Partial Placenta Prævia; Version; Recovery of Mother and Child.*

By Dr. JASPER CARGILL, of Linstead, Jamaica.

(*The Lancet*, January 22.)

The following case is related by Dr. Cargill:—

"On the morning of the 7th August, 1868, I was summoned to attend Mrs. D——, aged forty-six, who resided nine miles from my residence. She was the mother of a large family, and had never had a bad labor. She wanted three weeks of her full time.

"I was informed that, while in her bath on the morning of the 2d August, Mrs. D—— was alarmed by a sudden gush of blood, without any uterine pain whatever. She felt faint, and went to bed. All that day she continued to lose blood at intervals. On the 3d, she felt better, and there was very little bleeding. On the 4th, slight uterine pains came on, and gushes of blood during each contraction. This continued during the 5th and 6th. Very early on the morning of the 7th, she was seized with strong rigors, and the loss of blood was alarmingly great. A neighboring druggist was consulted, who at once advised my being sent for.

"I arrived at 10.30 A. M., and found Mrs. D—— in a very critical state. Her countenance was pinched and anxious; pulse at wrist hardly perceptible. She was in a profuse cold perspiration, and her breathing short and quick. The bed and bedding were saturated with blood. The pains, which had been constant

and feeble, had entirely ceased. Having removed the napkins, I found the vagina filled with clotted blood. On introducing my hand, I felt the os uteri high up, and fully dilated. The membranes were entire, and the child's head presenting. The placenta was attached to the posterior edge of the cervix, and a portion of it detached and curled up, so that the lip of the os could be felt beneath it. I at once gave half a drachm of the liquid extract of ergot, hoping to induce pains, and perhaps bring the head within reach of the short forceps. Having waited ten minutes, I repeated the ergot, by which a few feeble pains were excited. At this period a gush of blood warned me of the danger of any longer delay. Having repeated the ergot, I at once turned. I found no difficulty in reaching the feet; one of which I seized, and turned during the flow of waters. I delivered the child as quickly as I could, and lost no time in removing the placenta. The uterus, on being relieved of its distension, readily contracted. The child (a boy) was still-born for a few minutes, and required the usual means to restore it. When I left the house in the afternoon, both mother and child were in a favorable condition. The mother recovered rapidly, and the baby is now a fine-grown child. The placenta was of the usual size, and the detached portion thick and congested.

"Dr. Tyler Smith, in his *Manual of Obstetrics*, writes, with reference to placental presentation, 'In my opinion, turning is the great operation in placenta prævia when the child is living and viable.'

"On the 11th of September, 1863, I treated a case of placenta centralis by version, and saved mother and child. I am, therefore, fully persuaded that turning is *the* operation in these cases wherever the conditions of the case render it possible."

ART. 239.—*Case of Partial Placenta Prævia, terminating Successfully without Manual Interference.*

Under the care of Mr. EDWARD ADAMS.

(*The Lancet*, December 18, 1869.)

D. F——, aged twenty-five years, married, was admitted into the lying-in department of the St. Matthew's Infirmary, Bethnal Green Workhouse, to be confined of her sixth child, on the 6th of May last, when she had acute labor-pains, but not of a bearing-down character. About a month previously she began to have a copious discharge of blood at intervals. On admission, the os was about the size of a half-crown piece, and patulous. There was hemorrhage during the pains, which came on about every quarter of an hour. Ordered cold wet cloths to be applied to the vulva, with cold drinks, such as tea, milk, beef-tea, &c.; also dilute sulphuric acid, ten drops in camphor water and a grain of opium. She was examined again four or five hours afterwards. The os was found cushiony, and dilated to the size of a five-shilling piece. Hemorrhage was not alarming. The placenta could be felt adherent posteriorly; but anteriorly the finger passed into the body of the uterus, and came in contact with the head of the fœtus.

At 7 A. M. next morning the child was born suddenly, and afterwards the placenta came away. The child was born alive. Uterine hemorrhage profuse, controlled by cold water poured from a height on to the abdomen, and tight bandaging with a padded book; and a saline mixture, with acid and opium, in camphor water, internally. On the 9th the child was found to be jaundiced; the mother losing less. On the 10th the patient was ordered a pint of beer, and meat diet. Mother and child doing well. The mother was allowed to sit up a little on the 12th. Rapid convalescence from the last date, and the patient discharged at the end of a month well. It might be added that brandy was cautiously administered during labor.

Art. 240.—*On Transfusion of Blood.*

By Dr. Ch. Marmonier.

(*De la Transfusion du Sang.* Paris.)

The following are some practical conclusions that have been formulated by M. Marmonier:—

1. The operation of transfusion is not a difficult one to practise, and it requires no special apparatus.
2. The dangers of this operation are less than has been generally thought.
3. It is not necessary to warm the blood before injecting it.
4. 150 or 200 grammes of blood is generally a sufficient quantity.
5. It is not indispensable to defibrinate the blood.
6. Finally, this operation should be but an extreme measure reserved especially for combating post-hemorrhagic collapse.

Art. 241.—*Report of a Case of Puerperal Fever treated by the Injection of Ammonia into the Veins.*

By Tyler Smith, M.D., F.R.C.P.

(*British Medical Journal*, December 18, 1869.)

At a meeting of the Obstetrical Society of London on Dec. 1st, Dr. Tyler Smith read a paper on a case of Puerperal Fever, treated by the Injection of Ammonia into the Veins, followed by recovery. The patient, a primipara, was delivered by forceps on November 1st. On the 5th, symptoms of puerperal fever supervened, and on the 12th, she was in such imminent danger that Dr. Smith determined to try the injection of ammonia into the veins, as practised by Dr. Halford, in Australia, for snake-bite. The operation was performed at 7.45 P.M. Half a drachm of a solution containing one part of liquor ammoniæ to three parts of water was injected into one of the veins of the right forearm. As soon as two or three drops had been injected, she roused, and complained of severe pain in the opposite arm. When the operation was completed, there was very great pain over the whole body, with intense smarting of the right arm. This continued without abatement for several hours. The sickness closed at 11 P.M., but the bowels were moved four times in the course of the night. Towards morning the pain subsided, and she got a little sleep. On November 13th, the abdomen had much diminished in size, and the pulse had fallen to 100. On the 14th, she felt better, and was quite sensible, though pale and weak; pulse 108; the right arm, at the seat of puncture, was red and swollen, and the veins of the whole arm were distinctly mapped out. She was able to take a little food without sickness. On the 15th, the tongue was becoming natural; the abdomen was smaller. On the 17th, she was still progressing favorably; a small ulcer had formed on the right arm, at the seat of puncture. A slight relapse occurred on the 20th; but after the 22d, her improvement was uninterrupted. Dr. Smith observed that he had never seen a patient in a similar condition recover; and although he adopted this treatment in this case alone, so successful was the result, that he had felt it incumbent upon him to bring the particulars before the Society.

Dr. Aveling would have liked a fuller account of the history of the plan of injecting medicinal fluids into the veins.

Dr. Barnes said that reference to the history of venous injections did not diminish the merit of applying this method to the treatment of puerperal fever. In this disease it was often difficult to get remedies absorbed; the only hope seemed to be in direct injection into the vascular system. He had already said that the injection of saline fluids and transfusion ought to be largely extended; and in his work on obstetric operations he had advised it in certain cases of puerperal convulsions, fever, and obstinate vomiting. He doubted

whether the fluid used by Dr. Smith was the best; he should prefer a fluid like Dr. Little's, made of similar specific gravity to that of the blood, adding a little ammonia and alcohol. He thought the indication was to carry the ammonia in a considerable bulk of fluid, not concentrated.

Mr. Spencer Wells had been much struck by Dr. Halford's reports; and last March he had injected half a drachm of liquor ammoniæ into one of the veins of a woman, two days after ovariotomy. The pulse and temperature had risen to 140 and 102.8, with the usual signs of fibrinous deposit in the heart. Scarcely more than a momentary revival followed this injection, nor more after another by Dr. Junker, two hours afterwards. A large clot was found after death, filling up the left ventricle. Mr. Wells suggested that, if Dr. Smith's example be followed, great care should be taken only to inject ammonia when there is an excess of fibrine in the blood.

The President observed that the Society was much indebted to Dr. Tyler Smith for bringing this interesting case forward. One swallow did not make a summer, but new facts were always deserving of attention.

Art. 242.—*On the Cæsarean Operation.*[1]

By M. Guéniot.

(*Gazette Hebdomadaire*, No. 11, 1870.)

"It is generally believed that the Cæsarean operation in Paris has always been fatal to the mother. I can, however, quote six well-authenticated cases of success which occurred between 1740 and 1787: these cases were reported by Doumain, Vermont, Millot, Deleurye, Lauverjat, and Coutouly. Since that time the population of the French capital has considerably increased, but public hygiene has progressed in the same proportion, and, by modifying the operative proceedings, one may be able to render more satisfactory an operation which for eighty-three years has been invariably followed by reverses.

"With this end in view three orders of facts have to be taken into consideration; these are: (1) The bad symptoms or complications which induce death after the operation; (2) the mode in which the cure is effected in successful cases: (3) finally, the instruction furnished to us by the practice of ovariotomy.

"Peritonitis and putrilaginous metritis are the two most formidable complications. It is necessary then to endeavor to prevent or to contend against these. Cases of recovery teach us that a discharge of blood is often set up from the inferior part of the abdominal wound; and, moreover, that the womb contracts more or less extensive adhesions with the anterior abdominal wall; it is indicated therefore to favor as much as possible the production of these two phenomena. Finally, the practice of ovariotomy has demonstrated that the surgeon may incise and sponge the peritoneum without causing any very severe symptoms; but that it is necessary to avoid leaving any dirt upon the viscera and any portion of putrescent matter on the abdominal serous membrane. Such are the three sources of the indications on which the surgeon ought to depend in modifying advantageously the operative procedure of hysterotomy.

"I think that it is well to rupture the membranes artificially before the commencement of the operation. The incision of the abdominal wall ought to be directed according to the inclination of the uterus, so that the two wounds—the abdominal and the uterine—may preserve a parallelism and the lochial discharge may readily flow outwards. An abdominal incision of from sixteen to eighteen centimetres is generally sufficient.

"No putrescent matter should be left in the peritoneum. M. Tarnier unites the globe of the uterus whilst still intact to the lips of the external wound. In this practice there are two sources of inconvenience. The numerous punctures necessitated by the suture process, produced by themselves effusion of blood into the peritoneum; and then the womb, bound by two rows of threads, is

---

[1] Communicated to the Société Impériale de Chirurgie.

more exposed to gangrenous inflammation. It is necessary to operate externally to the abdomen by making the anterior segement of the womb project between the lips of the abdominal wound. Exact occlusion having been thus made, the uterus is then incised, and the infant afterwards extracted by dragging the womb more and more from the interior of the abdomen. After delivery, when the uterus has become well retracted, and the hemorrhage has ceased, the organ is allowed to return behind the abdominal wall. It is important to keep the patient at absolute rest for the thirty-six hours immediately following the operation."

ART. 243.—*Peritonitis and Death following an Intra-Uterine Injection.*

By Dr. HASELBERG.

(*Monatsschrift für Geburtskunde*, Band xliii. Heft iii. 1869; and *Gazette Hebdomadaire*, No. 13, 1870.)

A young woman, twenty-two years of age, who had had a premature labor six months previously, was treated for anteflexion of the uterus sufficiently pronounced to render difficult the passage of a sound. The vaginal portion was dilated, and there was also ulceration which bled readily on the anterior lip, and also in the cavity of the cervix. This ulceration was cauterized by nitrate of silver. There was abundant hemorrhage, having its origin partly in the dilated vessels which surrounded the ulceration and partly in the cavity of the uterus; even when the ulceration had been almost entirely healed, there was abundant metrorrhagia. It was then decided to attempt an injection of perchloride of iron, but it was not until after repeated trials that the end of the sponge could be carried beyond the point of flexion of the cervical canal and into the uterine cavity. The patient did not complain of pain after the operation; but in the night there was a violent rigor followed by sweating. This rigor was repeated for several nights in succession notwithstanding the employment of sulphate of quinine. The patient passed into a state of collapse, even before symptoms of peritonitis were manifested. On the fifth night the rigor was followed by excessive vomiting, and immediately afterwards pain came on in the abdomen. On the next night during vomiting, the patient suddenly experienced an acute pain in the abdomen, fell into a state of syncope, and died.

Autopsy.—Abdomen distended; an escape of a great quantity of gas on opening the cavity. Intestines glued together by recent exudation; the lower part of the peritoneal cavity filled with grayish pus of a putrid odor. The origin of this effused material was found to be a cyst of the right ovary, having the size of an egg. This cyst was ruptured, and through the orifice which it presented could be observed the protrusion of some pultaceous matter. At the superior surface of the cyst was seen the opening of the right Fallopian tube. Through the orifice of the tube could be passed a large sound, which was carried readily along the canal into the cavity of the uterus.

The uterine mucous membrane presented black spots, like ink stains, and a similar discoloration could be observed along the whole extent of the mucous membrane of the right Fallopian tube. The mucous membrane of the left Fallopian tube was of a greenish color. On examining the patches of discoloration of the mucous membrane, they were found to be infiltrated with iron. The nature of the discoloration was demonstrated by prussiate of potash and sulphate of ammonia.

Dr. Haselberg is persuaded that in this case the injection was the origin of the peritonitis; he is nevertheless a partisan for intra-uterine injections. Opinions are actually much divided with regard to the possibility of the penetration of fluids into the Fallopian tube and the abdominal cavity. The recent researches of Hennig and Klemm have shown that it is very difficult, in normal conditions and on the dead subject, to cause liquids to penetrate into the Fallopian tubes, and moreover that, in order to observe this phenomenon, it is necessary to have occlusion of the orifice of the cervix uteri and strong pressure. Thus, *à priori*, it seems a difficult matter to admit this penetration in the living subject. But, on the other hand, it has been demonstrated by Hildebrandt and

Dr. Mathews Duncan that, in certain cases, the Fallopian tube is much dilated and remains patent. A disposition of this kind existed in the present case related by Dr. Haselberg.

Besides, the possibility of the penetration of injections into the Fallopian tubes has been demonstrated by a series of observations. To cite only two recent cases, Gaillard Thomas speaks of an instance where the liquid penetrated through the Fallopian tube, and Mandl establishes that this occurrence is frequent, and that a simple drop of water in the Fallopian tube may cause the most acute pain. Mandl has reported a case of fatal peritonitis after an intra-uterine injection. Other accidents may accompany injections, such as laceration of the uterus and hæmatocele, which may result even from the introduction of canula. A case reported by Voisin has proved that a vaginal injection is capable of causing fatal peritonitis. In a work of Montrose Pallen, in which are analyzed of fifteen cases of intra-uterine injection, there is related an instance of fatal peritonitis after an injection of tincture of iodine. This agent was afterwards found in the uterus, the Fallopian tubes, and the abdominal cavity.

The author of this contribution avows that it is difficult to guard against these complications in cases of dilatation of the Fallopian tubes. He thinks that sufficient protection is not afforded by a preliminary dilatation of the uterus. The best means, according to Haselberg, is to withdraw by aspiration with the syringe the excess of injected fluid.

ART. 244.—*On the Complication of Pregnancy with Ovarian Disease.*

By T. SPENCER WELLS, F.R.C.S.

(*British Medical Journal*, December 18, 1869.)

At a meeting of the Obstetrical Society of London, on December 1st, Mr. Wells related fifteen cases of pregnancy complicated with ovarian disease which had fallen under his own observation. In three cases sudden death followed spontaneous rupture of the cyst, in or before the seventh month of pregnancy. In two cases pregnancy and ovarian disease went on together without interference, and lingering labors ended in the birth of still-born children. In one case twins were born alive; but the mother had suffered greatly from distension. In one case five, and in another six pregnancies had gone on, and ended normally without interference, but in the last case the cyst ruptured spontaneously in the seventh pregnancy. Five patients were tapped during pregnancy; one, twice; one, three times; and three, one each. In all, five living children were born after natural labors. In one of them ovariotomy was successfully performed four months after delivery. In one case ovariotomy was performed in the fifth month of pregnancy, the uterus was emptied at the same time, and the patient recovered. In the concluding case of the series ovariotomy was performed successfully in the fourth month of pregnancy, after spontaneous rupture of the cyst and peritonitis, pregnancy proceeding without interruption. The author believed that a careful consideration of these cases would lead to the following conclusions: 1. Pregnancy and ovarian disease might go on together, and end safely both to mother and child. 2. But in a large proportion of cases, probably in nearly all where the ovarian tumor was large, there was danger of abortion; or, if the pregnancy proceeded to the full term, of lingering labor, and a still-born child; and throughout the later months of pregnancy there was danger of sudden death to the mother, from rupture of the cyst, or rotation of its pedicle. 3. Spontaneous premature labor might not save the mother from these perils; and the induction of premature labor almost implied sacrifice of the child, with considerable risk to the mother. 4. There was no proof that tapping an ovarian cyst was more dangerous during pregnancy than at any other time. It would generally afford immediate relief to distension, and lead to the normal termination of pregnancy in the birth of a living child, at a very slight risk to the mother, if proper precautions were taken to prevent the escape of ovarian fluid into the peritoneal cavity, and the entrance of air into this cavity and into the cavity of the cyst. 5. If an ovarian cyst

should burst during pregnancy, removal of the cyst, and complete cleansing of the peritoneal cavity, might save the life of the mother, and pregnancy might go on to the full term. 6. Of three cases on record where a pregnant uterus had been punctured during ovariotomy, the only recovery was in the one case where the uterus was emptied before the complication of the operation.

Art. 245.—*On the Cæsarean Operation.*[1]

By M. Tarnier.

(*Gazette Hebdomadaire*, No. 10, 1870.)

"The three chief accidents likely to attend the Cæsarean operation are: hemorrhage, hernia of the intestine, and the passage of lochial fluid on to the peritoneum. The hemorrhage proceeds chiefly from the uterine wall; the blood flows away in clots, especially if the placenta be inverted upon the anterior wall of the uterus and the strength of the woman be reduced. After the fœtus has been removed, and when manual pressure is made upon the surface of the abdomen, the blood penetrates into the peritoneal cavity, and peritonitis is set up. When the uterus is empty a hernial protrusion of intestine occurs, which is covered by the blood from the uterus, and is injured in the process of reduction. Finally, at the termination of the operation, sutures are applied to the abdominal walls only; the uterine wound remains patent, so that the lochia can penetrate into the peritoneal cavity.

"Let us consider now whether the operative proceedings hitherto recommended enable one to avoid these accident. I put on one side Levret's operation in which the uterine wound remains intact. In the proceeding of MM. Lebas and Lauverjat the penetration of the lochia into the peritoneum is prevented by making the uterine suture. In the first operation performed by myself I attempted this suture; it is almost impossible to bring together the peritoneal portion of the lips of the uterine wound. Martin, of Berlin, makes the utero-parietal suture, uniting the right side of the uterus to the right side of the abdominal wound, and the same for the left side; he hopes in this manner to prevent the penetration of the lochia into the abdomen. M. Lestoquoy, of Arras, incises the uterus, leaves the membranes intact, and afterwards makes Martin's sutures; this operation was attended with success. The contents of the uterus were then torn away and the child withdrawn. Sutures were not applied externally. In this manner penetration of blood and lochial discharge into the peritoneum and also hernial protrusion of intestine are prevented. My second operation was performed after this plan. The abundant hemorrhage, however, obliged me to break through my sutures in order to remove the child; the placenta, as in the first operation, was inserted on the anterior wall of the uterus.

"I have thought that the utero-parietal suture might be first made and the uterus then incised. The following is the plan that I have sketched out: to incise the abdominal wall; then to apply sutures between the uterus and the walls of the abdomen without previously incising the uterus. I would apply about seven points of suture on either side. The uterus would then be incised between the points of suture, the membranes opened, and the fetus removed. In this manner the three accidents mentioned above would be avoided. What might be the disadvantages of my operation? The fœtus, it may be said, would probably be wounded; in the dead body I have performed the operation without touching the child. Might not the contraction of the uterus be obstructed in consequence of its attachments to the abdominal walls? I do not think so. The abdominal walls are distended and the uterus remains in the abdomen for a long time after delivery; beside, the experiences of M. Lestoquoy prove that this fear is not well founded. As chloroform may cause vomiting, I have endeavored to replace this agent by chloral. A female after an administration

---

[1] Communicated to the Société Impériale de Chirurgie.

of four grammes of chloral tolerated an application of the forceps; the pain, however, in this case was not entirely abolished. In another patient the chloral draught was rejected by the stomach."

(B) CONCERNING THE DISEASES OF WOMEN.

ART. 246.—*A Case of Multiple Cysts of the Ovary taken for a Unilocular Cyst; Puncture; Death from Peritonitis in fifty-two Hours; Remarks on the Chemical and Toxical Properties of Ovarian fluid.*

By Dr. VERNEUIL.

(*Gazette Hebdomadaire*, No. 13, 1870.)

The following case is detailed by M. Verneuil in an article on "death from very small operations:"—

Leonie Bouland, aged twenty-four years, was confined in the month of June, 1868, without any serious symptoms; she had previously been in fair general health. After the delivery the abdomen remained large, and then during the months of August and September increased rapidly in size. Early in October the woman was admitted into the Lariboisière under the care of M. Oulmont, who, after a most careful examination, diagnosed a unilocular cyst of the ovary. The patient was afterwards transferred.

The abdomen was then very large, much distended, and perfectly regular; no appreciable prominence could be made out. There was complete dulness in front, but above and behind a sonorous zone in a horseshoe form corresponding to the displaced intestines. There was no œdema of the lower limbs, and no dilatation of the veins of the abdominal wall. No indication of any hepatic affection, nor of obliteration of the vena cava. The urine was normal. Considerable inconvenience was caused to the patient in consequence of the size of the tumor. The patient was much emaciated and dyspeptic. There was one sign in favor of ascites; this was distension with slight elevation of the umbilical cicatrix. It was concluded that in consequence of the pregnancy the abdominal wall had been thinned at this point, and also that there might be at the same time a certain quantity of fluid in the peritoneum. Cystic disease of the ovary was diagnosed without hesitation. It was believed to be unilocular, as a blow upon the surface of the abdomen, however slight and at whatever point it was made, was instantaneously and very distinctly transmitted to the opposite extremity of the percussed region.

As intervention was urgently demanded, and there seemed to be no formal contra-indication, the following plan of treatment was decided upon:—

1. A puncture both for exploratory purposes and for evacuation.
2. Next, after a few days, to make a fresh puncture and to inject iodine before the sac could regain its former dimensions.

On October 21st, at ten o'clock in the morning, a puncture was made with a small trocar. After the instrument had been withdrawn there flowed away about one litre of a viscid transparent fluid of the color of clear gum, which when treated with nitric acid, presented an abundant precipitate of albumen. The abdomen being then less tense, one could distinguish through its walls some irregularities. On a second puncture another cyst was emptied of about 500 grammes of a clear fluid, analogous to that withdrawn after the first puncture. Three smaller sacs were afterwards emptied by breaking down the partitions by means of the unarmed canula.

An error in diagnosis was thus clearly demonstrated, and the operation then suspended. The small punctured wound was then closed by adhesive plaster, and covered by a pad of cotton wool and a bandage. The case was then diagnosed as one of multilocular cyst, or of certain malignant growths of the omentum giving rise to ascites. The presence of so abundant a precipitate of albumen on the addition of nitric acid, and the distension of the umbilicus, led to the supposition that there was ascitic effusion. The day of the operation

was passed quietly by the patient, but in the evening the abdomen became painful, and vomiting occurred. On the following morning there was much abdominal tenderness, great distension, obstinate vomiting, thready and very frequent pulse, pinched countenance, and ardent general peritonitis. Calomel was prescribed, and inunctions of mercury and belladonna, but without arresting the course of the disease. The patient died on the morning of October 23d, fifty-two hours after the puncture.

The autopsy cleared up this enigmatical case. On removal of the abdominal walls the cavity was found to be filled by a great number of distinct sacs, which were distinctly isolated from each other, and united merely by a pedicle more or less extensive to a solid mass of the size of two fists, that represented the left ovary. These sacs, the dimensions of which varied between that of a cherry to that of an infant's head, were fatty, with rosy, amber, or reddish-colored fluid, or with a secretion similar in appearance to altered blood. Their walls were extremely small, so as to be torn by the slightest contact, and to permit the effusion of the cyst contents into the peritoneal cavity. Ovoid or spherical at the superficies of the tumor, these sacs became irregularly polyhedral from pressure in the deep-seated parts. Those which had been punctured during life could be recognized by their form and by their contracted and almost empty sacs. The ovarian mass contained a crowd of cystic cavities, but the larger portion was constituted by a soft, friable, very vascular pulp of cerebriform appearance, resembling in fact softened and rapidly growing sarcomata.

A microscopical examination was not made. The peritoneum presented traces of a subacute plastic inflammation; there were soft adhesions, which could be readily broken down; these probably had not existed before the operation. The effused fluid, of which there was a small quantity, scarcely one litre and a half, was turbid, of a reddish color, but flocculent. It could not be determined whether this had been due to an exudation from the serous membrane, or to rupture of a certain number of sacs before or during the autopsy.

M. Verneuil offers the following remarks on this case:—

"Pathological anatomy explains the error of diagnosis in this case; in fact the suppleness of the walls of the cysts permitted them to fill the abdominal cavity without forming either projections or lobes, to transmit, owing to their extreme tenuity, the percussion of the finger as if only a single sac had been acted upon, to be ruptured in a certain number during the proceeding of puncture, and to pour out their contents over the peritoneum. These contents differing from those met with in simple cysts and without doubt possessing irritating properties, excited subacute peritonitis.

"I do not see how the error of diagnosis could have been avoided, and by what signs one can be enabled to recognize these multiple cysts. There was then a deplorable concourse of circumstances which inevitably led my colleague M. Oulmont and myself, as well as many other physicians who had examined the case, to commit an error.

"With regard to the therapeutical point of view, can I accuse myself of anything? Certainly in the existing condition of things it would have been preferable to have performed ovariotomy at once. Without doubt the operation would have been a laborious one, for a certain number of cysts would have infallibly been ruptured under the surgeon's hands; on the other hand, the absence of adhesions would have rendered it practicable, and a minute cleansing would have freed the peritoneum from effused fluid. But the preliminary puncture had also its *raison d'être*, it determined the diagnosis, an absolute want in the presence of errors committed by most experienced practitioners. In a case of unilocular cyst it would have diminished the capacity of the cyst, and prepared it for the successful action of an iodine injection, an excellent method of treatment in cases of single sac. In a case of multilocular cyst the puncture would have arrested for a time the progress of the tumor and established firmly the indications for ovariotomy. But, it will be said, the exploratory puncture having once determined the error of diagnosis, it becomes necessary at once to perform extirpation. One will then probably arrive at the conclusion that every multilocular cyst ought to be removed in order to avoid the

inherent dangers of simple puncture, but I do not agree to this. Ovariotomy is not one of those operations that can be improvised like deligation of a vessel or relief of a strangulated hernia, and precipitation in the performance of this proceeding has more than once led to lamentable results. An insurmountable obstacle was presented to me. The patient was in a large ward of a great hospital; a condition which has hitherto hindered and will always hinder me from practising ovariotomy in the Lariboisière.

"To resume: having under one's eyes all the parts of the process, I acknowledge: firstly, to having made an error in diagnosis; secondly, to having practised an unsatisfactory operation; thirdly, to not having had recourse to what would have effected the greatest chances in favor of the patient; but in return for these confessions it will be necessary to allow for me that in this difficult case everything seemed to have combined for deceiving me and for assuring the death of the patient.

"Before concluding these remarks I wish to insist upon a point which has too frequently been overlooked by authors—viz., the quality of the fluid contained in ovarian cysts. The fluidity or viscidity of this fluid, and its mixture with foreign elements, as pus, blood, cholesterine, &c., have justly been insisted upon, and from all these characters useful indications have been drawn for prognosis and treatment; but surgeons have not sufficiently studied the chemical properties of the fluid, and especially its more or less irritating action upon the peritoneum. In the present case the effusion of a moderate quantity of cystic fluid set up a subacute peritonitis. Had then this fluid phlogogenic or energetic poisonous properties? Did it act like a poison by absorption, or as a caustic by irritation? This is a point which deserves study, and concerning which I have utilized some documents derived from my own experience, and some researches commenced by my friend M. Nepveu. Scientific records contain a great number of cases of intra-peritoneal rupture of ovarian cysts, ruptures which were produced either spontaneously or under the influence of an abdominal contusion. These cases terminated in different ways, in cure, in speedy death, and the development of a more or less severe peritonitis.

"In order to explain these differences, one invokes idiosyncrasies and the greater or less susceptibility to peritonitis; but is it not necessary to attribute to the effused fluids different chemical or toxical properties? The solution of these questions will depend upon chemical analysis and pathological experiments. A few words in the first place upon the origin of the present remarks.

"After an ovariotomy at which I assisted M. Matthieu, who had supplied the necessary instruments, immediately placed them in water, for the reason, as he stated, that the contents of certain ovarian cysts blackened, altered, and even corroded very rapidly the most polished steel. This fact struck me; desirous to verify it, and having some days afterwards an opportunity of puncturing an ovarian cyst, I collected in a closed vessel the fluid, which was turbid and of a brown color, and allowed to remain in it several pieces of iron and polished steel. On the following morning these pieces were covered by a pulverulent black layer, so thick that it could not be wholly removed by the most energetic rubbing. The metallic surface had lost its polish.

"If the contents of certain ovarian cysts exert a chemical action so evident upon steel, can it not be readily believed that it will act in a like manner upon the peritoneal serous membrane, and may not the same accidents which occur so frequently in consequence of spontaneous rupture of cysts of the ovary into the peritoneum be thus explained?

"M. Nepveu has collected a number of cases which, joined to those already reported by Dr. Tilt of London, furnish a total of 97 cases. Out of this number there were 46 deaths and 51 cures more or less complete.

"Sometimes, though rarely, death was sudden; on other occasions it was speedy from subacute peritonitis, most frequently it occurred at the end of a few days.

"The nature of the fluid was observed only in twenty-five cases; in eleven it was purulent and caseous; in two gelatinous; in two made up of pus and encephaloid matter; in seven its character was very variable, being serous, red, reddish-brown, or black in color, sanguinolent, rich in cholesterine, &c.

In four instances there were dermoid cysts, and once the tumor was an hydatid cyst.

"Unfortunately in noting these differences, the physical aspect of the diverse fluids was regarded without any notice having been taken of their chemical properties.

"Having thought that experimentation might be of some utility in clearing up so obscure a subject, I advised M. Nepveu to make upon some animals injection with the ovarian fluid.

"These experiments, although few in number, have produced some results. Four dogs received into their subcutaneous cellular tissue some drops of ovarian fluid injected by the ordinary syringe. In all the temperature was raised by some tenth of a degree, amounting occasionally to one degree. The number of respirations was increased by one-third. The cardiac pulse four or five hours after the injection could not be counted. Other symptoms of greater or less intensity were also manifested; these consisted in loss of appetite, great thirst, great prostration, much barking, nocturnal sweating. The symptoms lasted from two to eight days, and then the general health was re-established. On one occasion the injections although scanty set up small local subcutaneous abscesses, but the creature experimented upon was a small dog who had suffered with much intensity the symptoms above described.

"The ovarian fluid injected in these experiments was of a fairly good character, serous, somewhat thready, and of a very light brown color. Notwithstanding this apparent benignity, it possessed pyogenic and even, in one case, phlogogenic properties.

"The results of those few experiments justify the taking of minute precautions in the operation of ovariotomy in order to prevent the pouring out of cystic fluid into the peritoneum, and the care with which the cleansing of this serous membrane is carried out; they also supply a fresh proof of the assistance that may be given by experimentation to clinical practice."

Art. 247.—*Some Remarks on Lactation.*[1]

By M. E. Decaisne.

(*Gazette Hebdomadaire*, No. 1, 1870.)

"1. Pregnancy, lying-in, and lactation ought to be considered as a chain which cannot be broken without prejudice both to the mother and the child.

"2. A great number of facts prove that the mother who does not nourish her own child is more exposed to peritonitis, to metritis, to different kinds of abscess, to certain chronic affections, and to cancer of the breast and uterus.

"3. It has been observed that chlorosis, anæmia, certain affections of the stomach, and that condition which has been vaguely designated *weakness of the constitution*, far from serving as motives for the practitioner to dissuade the mother from nourishing her child, ought, on the contrary, in the majority of cases, to cause him to look upon lactation as a means of re-establishing the perfect equilibrium of the functions of the organism.

"4. I admit, what is well understood, that there are certain women who cannot nourish their children, but maternal alimentation ought to be recommended in all cases in which the health of the woman will not be thereby compromised; and cases are rare, even in cities, in which she cannot perform this duty. It is not necessary that the mother should be fatigued by a repetition of the process, neither is it indispensable that she be very robust and of irreproachable health for nourishing her child.

"5. I think that these reflections, which have not, I confess, the merit of complete novelty, ought to be taken into consideration in discussing that grave question of the mortality and alimentation of newly-born children, as it is probable that administrative regulations can never be resolved in a satisfactory

---

[1] Communicated to the Académie des Sciences.

manner. But I believe that if the problem which has been imposed at the present day for the meditation of physicians and economists can possibly be simplified, it will only be so by a return to observation of the laws of nature, which can never be transgressed with impunity."

Art. 248.—*On Chancrous Induration in the Female.*

By Dr. Alfred Fournier.

(*Annales de Dermatologie et de Syphilis*, No. 1, 1870.)

1. Induration is produced in the female as in the male, and with the former is even more frequent if one adds to the primary or chancrous indurations the secondary indurations which, though very common in the woman, are relatively rare in our own sex.

2. In speaking only of primary induration, the extra-genital chancres which supply a point of rigorous comparison between one sex and the other, are indicated in the same degree and in the same fashion in the woman as in the man.

3. The special chancres in the woman present, in the great majority of instances, an induration equal, and sometimes even surpassing that of the chancres proper to the man.

4. There is a limited region of the female genital organs (the vulvo-vaginal infundibulum) in which induration presents itself less markedly than when observed on the man. And it is at this period that exploration is rendered more difficult by local conditions.

Dr. Fournier states that the chancrous induration though absolutely equivalent and identical in both sexes, still presents some differences of a secondary order. Of these differences the two following are especially to be noted:—

"1. The superficial indurations are more common in the woman than in the man—that is to say, one meets more frequently in the former with well-marked lamellar indurations which may be compared to flattened disks, small hard masses, circular pieces of parchment, &c.

"2. The strictly circumscribed indurations with large centres are certainly more rare in the female than in the male. And what contributes to make them still less common is the fact that in women the chancrous induration properly so called is frequently surrounded by indurations of another character. From this point of view, there is a curious difference to be observed between the two sexes. In the male the chancrous callosity exactly encloses the chancre without passing sensibly beyond its limits, and the surrounding tissues most frequently maintain their normal suppleness. In the female, on the contrary, there is frequently formed around the primary chancrous nucleus a zone of induration of a more or less considerable extent. In many instances I have had an opportunity of demonstrating chancres which, though limited in extent and superficial, had caused the conversion of a small lip into a layer of cartilage and the whole of the greater lip into a resistent mass of extraordinary size and consistence. In cases of this kind, the primary induration is lost, enveloped as it is in a mass of peripheral induration, so that it cannot be distinguished. It then runs great risks of being confounded with lesions of another order."

Art. 249.—*On Puerperal Diseases.*

By J. Braxton Hicks, M.D., F.R.S.

(*British Medical Journal*, February 12.)

At a meeting of the Obstetrical Society of London, held February 2d, Dr. Braxton Hicks read a paper on Puerperal Diseases.* The paper comprised reports of eighty-six cases, which occurred to him in consultation in private practice; and they presented an aspect, different from hospital cases, which the author considered of value. They occurred after simple labor, all those in

which operations had been performed having been excluded. The treatment had also been excluded, in order not to draw off attention from the points desired to be noticed. Instead of classifying the cases according to *type*, he took *cause* as the basis of arrangement. He thought that, in many cases, the diseases might be advantageously viewed in this way. He divided the cases into two groups: first, those in which the cause appeared certain; secondly, those where the cause appeared uncertain. In the first group, which took in 66 cases, he placed scarlet fever as being the most numerous—viz., 36. These were divided into those in which the rash was present—19; and those in which there was no rash, but where the patient had been exposed to the risk of contagion—15; and two others, in which persons in the same house had sore throat, but whether of distinct scarlatinal origin or not was not clear. Dr. Hicks discussed the nature of the rash in the less marked cases, and how far it was similar to the rash of surgical pyæmia; and whether the latter were really distinct—a point difficult to say, unless we could be certain that the patient had or had not been under the influence of scarlet fever before admission. Regarding the patients without rash, but who had been exposed to the chance of contagion, he reminded the Society of the varieties of scarlet fever in the non-puerperal state, as also of those cases which had no rash and had sore throat; and showed how, even in those cases in which the puerperal patient was unquestionably attacked, the usual symptoms were modified; that is to say, the throat and glands were but slightly affected, and the rash nearly always appeared simultaneously over the body. The other symptoms were like those of so-called puerperal fever; so that, if the rash were added to the typical disease, no difference could be observed. These facts, he argued, should prepare us to believe that a disease entering the puerperal woman may become so modified as to produce symptoms more or less differing from the ordinary one. He dwelt upon the advantages which would be derived from more generally studying the modifications of disease under varying conditions, particularly the exanthemata; admitting, at the same time, the necessity of distinctly defining disease. At any rate he considered the occurrence of puerperal fever, with exposure to the poisons, a wonderful circumstance if a mere coincidence. Viewed in another way, out of 32 cases of typical puerperal fever without a rash, half had been exposed distinctly to the contagion of scarlet fever; of the other half, it could only be affirmed that no such cause could be detected. Six cases of erysipelas connected with parturition were given, showing the slight influence of this disease in private practice. In two instances, the attendants became affected with erysipelas of the face after the mother had become attacked by puerperal fever. Six cases of diphtheria, and two, apparently from typhoid or typhus, were also given. Next came nine cases where serious symptoms arose from decomposition of the uterine contents. After alluding to his paper read before the Leeds meeting last year, the author pointed out the analogy of a poison derived from this source, and one derived from without. Only one case of puerperal fever had occurred, which could be clearly traced to the medical man having attended a similar case. This was pointed out as very satisfactory, because formerly the conveyance of this disease was largely owing to the attendants. After considering the influence of maniacal symptoms on the puerperal state, the cases were gone into which seemed to have no external origin, of which twenty were reported. There were some in which symptoms appeared early in labor, of which the symptoms appeared of a different kind to those which came on about the third to the fifth day. Some of the others were simply local, and probably traumatic, while others belonged to the typical puerperal fever. The various causes which might have produced dyscrasia in these were alluded to; and, in conclusion, the author thought that the cases showed that the parts bruised and abraded by the forces of labor, tended to recovery; that if any animal poison, such as of zymotic disease, were imbibed by the patient, the system might be so rapidly affected, that death might ensue before the ordinary symptoms showed themselves; or that they might show themselves in a more or less modified form, or in a manner so distinct that its origin escaped detection; that, under these influences, the parts which should have

recovered tended to serious effusion, which might go on to suppuration; or inflammation might arise at once or separately in the uterus or its neighborhood—viz., metritis, cellulitis, peritonitis, &c., and from these the system might again be affected by pyæmia and all its secondary affections, embolism, phlegmasia dolens, &c.; so that the patient was not only subjected to the influence of the primary poison, and to the local troubles thence resulting, but also to secondary blood-disturbance, the effect of the local mischief. So also offensive lochia would poison the system, and cause local irritations; but these again, might affect the blood by pyæmia, &c. In like manner any depressing influence, mental, aerial, functional, &c., would tend to retard recovery of the bruised parts, so that they might go on to serous effusion, suppuration, &c., and end, perhaps, in pyæmia and its results. Looking to the fact that, out of 86 severe puerperal diseases, more than three-fourths had been connected with exposure to animal poisons of one kind or another, the author endeavored to impress upon all the great importance of removing these causes from the parturient woman, and particularly alluded to separation where scarlet fever existed in her house.

Art. 250.—*On Puerperal Fever.*

By Wynn Williams, M.D.

(*The Lancet*, February 12.)

At a meeting of the Harveian Society, held January 20, Dr. Wynn Williams read a paper on Puerperal Fever. He considered puerperal fever might be divided into two classes; the one depending on simple inflammation, the other on specific poison. The same tissues of the body may be attacked in either case: in the one, usually confined to one organ; in the other, almost general from the commencement. He considered the poison to be always due to the presence of putrid animal matter, and of course septic, in no way different from the septic poison, when seen in the male, or non-parturient female; that it might be produced at any time, by introducing the products of animal decomposition under the skin of the parturient or non-parturient; and that the only difference is in the peculiar condition of the parturient female. He did not agree with those writers who believed it might be caused by the exposure of the lying-in woman to the peculiar poison of scarlatina, smallpox, typhus fever, erysipelas, &c. The post-mortem appearances differ in no essential form from those found in the bodies of those who have died from pyæmia after surgical operations. If the obstetrician has been attending a case of puerperal septicæmia, or indeed septicæmia occurring in any one else, he should place himself in a small room or closet, and place some scales of iodine over a spirit-lamp, and allow himself to be surrounded by its fumes.

Art. 251.—*On Puerperal Convulsions.*

By J. Hall Davis, M.D., F.R.C.P.

(*British Medical Journal*, December 18, 1869.)

At a meeting of the Obstetrical Society of London, Dec. 1st, Dr. Hall Davis read a paper on Puerperal Convulsions, illustrated by a history of thirty-three cases. Dr. Davis commenced his paper with a statement of the various pathological conditions under which convulsions presented themselves. He viewed the disease as occurring under two types, sthenic and asthenic, and also as partaking of the characters partly of epilepsy, partly of apoplexy. He found that at least in twenty-two of the cases, premonitory symptoms occurred—viz., emotional, or other disturbance of the cerebro-spinal centres; renal mischief; eccentric local irritations, gastric, intestinal, uterine, &c. Eight of the cases preceded labor; 17 commenced during labor; 8 followed. Obstructive difficulties in the labor were the exception. Fifteen of the cases occurred in

primiparæ, their ages ranging from eighteen to twenty-five; 15 in multiparæ from twenty-five to forty-seven, only one being of the latter age. The medical treatment was as follows: Bloodletting, followed by purging, sinapisms, or vesicants when necessary, and in two by opium, 21; chloroform, 7; purging and sinapisms, 3; opium, 1; supporting and antiseptic treatment, in a case of septic origin in 1; total, 33. Delivery was normal in 22; manual aid in breech-births, 2; version, 2; forceps, 5; craniotomy, 1; embryotomy, 1. The results to the mothers were: recovered perfectly, 30; partial recovery, hemiplegia, which had preceded the convulsions, remaining in 1; died 2, one of asthenic peritonitis; one with gall-bladder distended by calculi, and in second paroxysms. Two other cases, not included in the above 33, died in their first paroxysms, not having been previously treated. In three cases of threatened convulsion, treated prophylactically, the results to the mothers were: recovered perfectly, 1; recovered partially, 2; one with dimness of vision, which had long preceded labor; one with hemiplegia, which had existed previously. The result to the thirty-eight children (five being twin cases) was as follows:—28 living; of these, 24 were born without operative interference; 1 version; 1 breech case; 3 forceps:—10 still-born, viz., 4 head-presentations, without operative aid; 2 forceps; 1 breech; 1 craniotomy; 1 embryotomy; 1 induction of premature labor. In 24 cases the convulsions preceded delivery, and here the results to the children were 14 living, 10 still-born.

Art. 252.—*Cases of Metro-Cellulitis.*

Under the care of Dr. Hall Davis.

(*British Medical Journal*, June 11.)

The notes of the following cases were kindly furnished by Mr. Scully, the Resident Obstetric Assistant at the Middlesex Hospital:—

Case 1.—*Puerperal Metro-cellulitis following Protracted Labor.*—E. C., aged thirty-three, was delivered of her seventh child, a living female, about ten weeks before admission in Prudhoe Ward; her labor lasted about two days, but was unattended by complication. Three days after confinement, she had rigors, and was very feverish; she also had much pain over the uterus, which, on vaginal examination, was found to be large and immobile; an offensive lochial discharge was present. She was treated at her own home for some time, and the more urgent symptoms soon subsided. On admission into the Hospital the patient was in a very debilitated condition, and bore an expression of much suffering; her tongue was slightly coated, her pulse was quick and weak; she had no appetite, and her nights were sleepless. She complained of constant pain down the front of the right thigh, which was so fixed in a flexed state upon the abdomen, that any attempt at extension was attended with considerable suffering. Above Poupart's ligament on the right side, under the integument, there was a hard mass apparently fixed to the deep tissues, and very tender on pressure. The treatment consisted in a citrate of potash draught every four hours, linseed-meal poultices constantly to the right groin, and sedatives occasionally given internally, and in poultices to the affected groin. Four days after admission, the skin over the right groin slightly reddened, and, a week later, fluctuation was apparent at one point. An incision was now made through the skin, and a large quantity of pus evacuated. This gave the patient great relief; she was then put upon port-wine and tonics. The abscess continued to discharge pus for about nine days, and then healed up. The patient remained thenceforward free from pain, and was enabled to extend the leg freely, and walk about without any inconvenience. She was soon afterwards discharged convalescent.

It is highly probable that an abridgment of this patient's labor, by a timely resort to forceps-delivery, would have saved her from the tedious and painful illness which ensued.

Case 2.—*Metro-cellulitis from Cold caught during Menstruation.*—M. F., aged twenty-eight, not married, three weeks before admission caught cold whilst menstruating, and, feeling very ill in consequence, she was obliged to keep her bed for a fortnight. She had great pain across the lower part of the abdomen and back, was sick after

every meal for two days, and had diarrhœa nearly all the time. About the same period she noticed a thick yellowish discharge from the vagina. On admission the pulse was 112 and the tongue clean. There was complete anorexia. She complained of constant pain across the hypogastrium, increased by micturition and on going to stool. There was a purulent vaginal discharge; the uterus was found to be perfectly fixed, and there was considerable induration of the cellular tissue surrounding the uterus, especially posteriorly in the direction of the sacrum. A poultice of linseed-meal and mustard was applied to the abdomen. Fifteen grains of bromide of potassium with ammonia and decoction of cinchona was given three times a day. The pain was to a great extent relieved by this treatment, and the patient felt better; it was, however, noted that she had, since taking the medicine, slept a good deal both day and night—this has been observed in other patients in the ward taking bromide of potassium. A fortnight after admission, the medicine having been continued in the meanwhile, a vaginal examination revealed a considerable diminution of the induration, and the uterus had become partially movable. As all pain had subsided, and her debility was still considerable, tonics were now administered. Her appetite and general condition improved steadily, the uterus became more freely mobile; and the only evidence remaining of the previous inflammation was a slightly increased density of the uterine tissue. The menstrual function having been properly re-established, and the patient's health greatly improved, she was discharged and forwarded to the Home of Convalescents at Walton.

ART. 253.—*Absence of Uterus in two Sisters.*

Under the care of Dr. PHILLIPS, at Guy's Hospital.

(*British Medical Journal*, June 18.)

A patient, aged twenty, was lately in Guy's Hospital, under the care of Dr. Phillips, in whom no trace of an uterus could be felt. She was of dark complexion, and was rather diminutive in stature. The external genitals were perfect; the pubes was covered with hair, and the mammary glands were well developed. The vagina was represented by a short but dilatable canal, ending as a *cul-de-sac*, in the mucous membrane of which there were three small apertures. By means of a careful pelvic examination, the uterus was found to be wanting, and no ovaries could be felt. She had been subject, since her marriage at seventeen, to pain in the loins, to sickness and headache; and these were increased in severity for a few days every month; but there had been no hemorrhage from the vagina, nor from any other part.

The patient stated that one of her sisters had never menstruated; and when the latter, aged twenty-one, presented herself among the out-patients, it was found that a similar malformation existed. She also was married; was very like her sister in appearance, but taller; and on examination, was found to have a very short vagina, but, as far as could be ascertained, no trace of uterus or ovaries.

ART. 254.—*On the Glands of the Mucous Membrane of the Neck of the Uterus.*[1]

By Dr. DESPRES.

(*Archives Générales de Médecine*, Décembre, 1869.)

1. The neck of the uterus contains follicular and ramified tubular glands, which are seated in the uterine muscular tissue, like the prostatic glands in the midst of muscular fibres.

2. These glands secrete a clear, viscid, albuminous fluid analogous to the prostatic fluid, which flows from the neck intermittently, and produces ejaculation in the female. This fluid, called the uterine fluid, issues slowly from the neck, and rests upon the os tincæ and in the cavity of the neck; it has been hitherto considered a kind of catarrhal fluid.

[1] Communicated to the Académie de Médecine.

3. The ejaculation of the female is destined to furnish a vehicle for the zoosperms, to allow them to arrive with certainty within the body of the uterus.

4. The glands of the neck are obliterated during pregnancy, and form the Nabothian cysts. These cysts, however, are ruptured during labor and the contractions of the uterus.

5. The neck of the uterus is erectile; it becomes erected at the same time as the other erectile organs of the female, and opens up in order to allow the passage of the uterine fluid, which constitutes the ejaculation of the female.

Art. 255.—*On Fundal Endometritis.*

By C. H. Routh, M.D.

(*The Lancet*, May 7.)

At a meeting of the Obstetrical Society of London, held April 6th, Dr. Routh read a paper on Fundal Endometritis. After referring to three papers formerly read to the Society by Drs. Tilt and Meadows, and the President, on Gooch's irritable uterus, and showing how the three authors differed in their views, he stated that the disease in most of these cases was inflammation of the lining membrane of the fundus, and not flexions, or merely uterine congestions or inflammations. Dr. Routh then proceeded to explain Dr. Snow Beck's anatomical arrangement of the nerves of the uterus, showing that the fundus was supplied by a distinct set of nerves, in direct relation with the semilunar ganglia, and showed how their arrangement explained the radiations of pain. He then pointed out the gravity of fundal endometritis, as compared to affections of the cervix, and specified the symptoms. After a short reference to the microscopical character of the discharge, he stated that there were four varieties of the disease which he had observed: 1. The convulsive form, in which the fundal pain, passing down one of the thighs, increased by passing the sound, &c., was accompanied by a variety of convulsive seizures, such as spasmodic vomitings, tetanus, hysterical fits with or without mania, up to epileptoid fits and catalepsy; the symptoms persisting for some time until the catamenial function was fully established, or flooding occurred. 2. Inflammation of the fundal membrane with increased secretion, accumulation of this in the cavity from obstruction at the inner os, giving rise to symptoms of pregnancy or even labor, with intense fundal pain, all relieved by a sudden gush of discharge, persisting for months, and often recurring. 3. Chronic cases of Gooch's irritable uterus, with more or less complete loss of the power of walking. Here also the inflammation of the fundus was unmistakable. 4. Cases of acute fundal endometritis, which sometimes rapidly passed into metro-peritonitis, generally fatal, although sometimes assuming a more chronic type. Cases of all these varieties were given, and the treatment of each was passed in review, being mainly local depletion by leeches, blisters, and occasionally dilatation by sponge tents, use of the hysterotome, anodynes, and measures locally antiphlogistic and calculated to produce a copious catamenial flow.

Mr. Gaskoin was particularly struck with that part of Dr. Routh's paper which referred to coxalgia as a symptom of endometritis, and related the particulars of a case he had observed in which it had been well marked.

Dr. Tilt strongly contested Dr. Routh's claim to originality in describing this disease; and said that he himself had devoted no less than seven chapters to it in his work *On Uterine Inflammations*. Dr. Tilt agreed with Dr. Routh as to the frequency and importance of endometritis; and said that it was generally confounded with inflammation of the cervix. He (Dr. Tilt) thought that, for all practical purposes, it was sufficient to divide the disease into acute, subacute, and chronic. He had found acute endometritis to be very rare; and his worst cases had occurred in young unmarried women. He considered a sudden gush of fluid, after sharp uterine pain, to be the best sign of subacute or chronic endometritis; and that when the gentlest pressure of the finger on the enlarged fundus gave exquisite pain, the wall of the womb should be considered diseased as well as the lining membrane. Dr. Tilt was convinced that many cases of

subacute or chronic endometritis were best cured by the leeches, injections, &c., adapted to cure the coinciding inflammation of the cervix. The next indication was to secure free exit of the discharge, which would permit the safe injection into the uterus of a solution of nitrate of silver or tincture of iodine in cases that would not otherwise get well.

Dr. Gervis was hardly prepared at once to accept the classification proposed by Dr. Routh. The differences, for example, between the two varieties of fundal endometritis, termed convulsive and obstructive, appeared to depend on circumstances accidental rather than essential. The local disease in each case was the same; but occurring in the one in an individual of highly susceptible nervous system, it induced various nervous disorders; while in the other, owing to a closure of the internal os, the fluid products of the endometritis accumulated in the uterine cavity, and gave rise to those symptoms so ably described by the author of the paper. But it could hardly be said that it was the metritis which was either convulsive or obstructive. With respect to the tendency of acute metritis to become associated with pelvi-peritonitis, and on the extreme gravity of the symptoms, Dr. Gervis could fully corroborate Dr. Routh, and mentioned the particulars of a case of recent occurrence which bore out the author's views.

Dr. Rogers had observed, with Dr. Routh, some of the cases narrated, and believed that there was reliable evidence for Dr. Routh's conclusions, which he thought explained the symptoms of many otherwise inexplicable cases.

Dr. Routh said that Dr. Tilt, in his work, had not distinguished between general endometritis and inflammation confined to the fundus, to which he (Dr. Routh) limited his four varieties of the disease. With regard to Dr. Gervis's observations, he said that it was true the first and second varieties were only modifications of the same disease, but in different phases, just as the endo-pericarditis and rheumatic ophthalmia were modifications of the same disease, but had different symptoms, and required different treatment. The first three varieties were seldom fatal, so that post-mortem examinations could not be had. The fourth variety was so; but, as an accoucheur, he felt strongly that he ought not to make post-mortem examinations of peritonitic cases, and so he had not asked for them in the cases he had met with.

ART. 256.—*On the Etiology and Treatment of Puerperal Metritis.*

By Dr. HERVIEUX.

(*Gazette Hebdomadaire*, No. 10, 1870.)

Etiology.—The causes of puerperal metritis are identically the same as those of puerperal poisoning, and need not be detailed here. But the modifications which the uterus undergoes during gestation, the vascular development necessitated by its enlargement and by the evolution of the fœtus, the contractile energy put into force by this muscular sac during the process of accouchement in passing from the gravid to the empty state, the rupture of the connections which unite the placenta to the internal surface of the organ, the loss of blood more or less extensive which is always the consequence of this, and finally, the rapid change which takes place in the dimensions of the uterus immediately after delivery; all these conditions, conformable as they may be to the plan of nature, create a condition of imminent disease, peculiarly adapted for the production of those lesions which characterize the different kinds of metritis.

To these conditions, which are common to all lying-in women, it is necessary to add special conditions which seem to be of such a nature as to favor particularly the development of metritis.

There are two parts of the uterus that are especially exposed to injury at the time of parturition, either by the fact of natural labor or by the manœuvres put into force for the removal of the fœtus: these are the cervical region and the seat of the placental insertion.

Contusions, lacerations, frictions, tearing of the neck, are to be considered

as the best established immediate causes. In a great number of patients suffering from metritis this lesional condition may be made out, not only in the early days after delivery, but sometimes from eight to fifteen days after. In a case observed by Villemin a large rent was found unclosed at the end of the first month. I have had frequent opportunities of making out in women who were considered as recovered, irregularities more or less deep in the course of cicatrization, manifest proofs of the solutions of continuity undergone by the cervix. On the other hand, do we know that the neck is, with the placental surface of the uterus, the region in which the autopsy reveals the most frequent morbid changes? Injury of the cervix, by becoming a cause of suppuration, becomes by that very fact one of the most susceptible pathogenic conditions for exciting metritis and opening the door to the most serious complications.

To possible lesions of the uterine tufts must be attributed a large share in the development of metritis. The simple fact of delivery, independently of all surgical interference, often gives rise to vascular ruptures which transform the cotyledonary surface into a veritable wound. This surface then suppurates, and, like the solutions of continuity of the cervix, exposes the patient to metritis and all its consequences. The point cannot be too much insisted upon, that vascular lacerations made out in certain cases over the placental surface of the uterus *are not very rare*, as has been stated by Robin, but they are far, very far, from being a constant fact. Like metritis and phlebitis, of which they are so often the starting-point, they are an accident. One may invoke these lacerations for the purpose of explaining certain puerperal affections, but they do not form part of the physiological conditions of the puerperal state. Like all injuries, they constitute pathological and accidental facts.

If lacerations of the neck and of the vessels of uterine mucous membrane consecutive to natural accouchement can engender metritis, with much greater reason may these lesions have the same result when they have been determined by violent surgical manœuvres; as version, application of the forceps, cephalotripsy, artificial delivery, &c. Women who have previously suffered from some uterine affection, such as chronic metritis, uterine deviation, &c., will by this very fact be more disposed to acquire puerperal metritis.

It may be conceived that premature abandonment of the horizontal position, a too prompt return to habitual occupations, and a standing position of long continuance when the return of the uterus to its former condition has not been sufficiently established, may, by giving rise to metrorrhagia, excite inflammation of the organ.

It must not be forgotten, however, that all these causes, the action of which is undoubted, will rest sterile with the immense majority of lying-in women, if these be only kept free from the influence of the toxic principle which produces puerperal poisoning. Is it not known that in the country and in the most barren localities with regard to surgical aid, the most serious imprudence and the most unfavorable manœuvres are followed by no serious consequence so long as the medium surrounding the lying-in women has not been vitiated by any evil emanation? When, on the contrary, this medium is infected, the above-mentioned causes exert their whole action, and metritis is manifested.

Treatment.—The prophylaxis of metritis consists entirely in the measures and precautions necessary for the female to take during labor and the period of the lying-in. It is unnecessary to enumerate here the special measures, which are described at length in all treatises on labor. It is to be recommended, however, that the practitioner should avoid as much as possible every measure capable of causing contusion or laceration of the cervix. Delivery ought to be the especial object of the most attentive circumspection. Premature and too energetic traction ought not to be exerted on the cord, for fear of leaving in the uterus some *débris* of placenta, which, by its putrefaction, might become the starting-point of a suppurative endometritis. If, in spite of these precautions, a portion of placenta has been retained, one should proceed to its extraction, either with the hand carried wholly into the cavity of the womb—if the neck be dilated or dilatable—or by means of forceps, if the organ has already contracted too far.

When metritis is once declared, it is necessary to have recourse in this, as in

all other affections due to puerperal poisoning, to the administration of ipecacuanha. This medicinal agent has the advantage not only of relieving the symptoms of gastric embarrassment which always coexist with the commencement of metritis, but also of producing in the digestive canal a beneficial revulsion, and perhaps of eliminating—together with the products of the biliary secretion—a portion of the absorbed poisonous principle.

The early attacks of pain which are produced in the uterine region may be always efficaciously combated by the action of cupping-glasses, to the number of six, eight, or ten, according as the pain is well circumscribed to the womb, or as it tends to radiate to the surrounding parts. The reappearance of the pains on the following day may necessitate a renewed application of the glasses; but it is rare—except in cases of subacute metritis, which nothing can arrest, and which causes death in two, three, or four days—for the pain not to be completely relieved by one application.

When, in spite of the relief of the local suffering, the uterus remains of large size, and the general symptoms persist, a large blister ought to be placed over the hypogastric region, and even to pass beyond this above, if it be necessary, with the aim of preventing a possible extension of the inflammation to the uterine appendages, and to a greater or less extent of the peritoneal serous membrane. As with cupping, the blister may be repeated if the malady be prolonged, and after the wound resulting from the former application of the blistering plaster is well cicatrized.

To these means of treatment may be added calming local applications, opiated cataplasms, and emollient fomentations, when the symptoms of metritis persist. If, in spite of these symptoms, the uterus remains in a state of considerable induration, mercurial ointment, spread in thick layers, and replaced several times in the day, may produce resolution of this persistent engorgement. The employment of the mercurial ointment should be continued until salivation is set up, as this phenomenon—according to Dr. Hervieux's experience—always coincides with a marked amelioration of the general and local condition.

Dr. Hervieux rejects the use of general warm baths, in consequence of the painful movements which are always necessitated by the transportation of the patients into the bath, and their removal. An aggravation of the uterine pains, and of the attacks of metrorrhagia—the bad effects of which are well known—may result from these disturbances of the patient. One has to consider also the possible chilling, which is always so justly feared by lying-in women.

There is one therapeutic modifying method to which Dr. Hervieux attributes great efficacy in the treatment of puerperal metritis. This consists in vaginal injections, repeated four, five, or six times daily, in order to free the patient from the inconvenience resulting from the lochial discharge and its fetid condition.

Dr. Hervieux considers that fetid lochia may become the cause of a veritable self-poisioning, by infecting the air which lying-in women constantly inspire. Perhaps too the most subtile principles of this secretion may be susceptible of absorption by the uterine mucous membrane, and penetrate by this passage into the circulating current. It always happens that the constant presence of these products of uterine suppuration on the genitals, and in the linen about the patient, has a deleterious influence, and is often the source of fresh puerperal accidents. To suppress this cause of poisoning, is not to contend directly with the metritis, but to remove one of the elements which probably contributes most powerfully to maintain and aggravate this affection.

Art. 257.—*On Intra-uterine Injections in the Treatment of Puerperal Metritis.*

By Dr. Hervieux.

(*Gazette Hebdomadaire*, No. 11, 1870.)

The following is Dr. Hervieux's method of applying intra-uterine injections:—"The patient being placed on her bed with her head raised and her buttocks supported by a cushion, and with a basin placed between her thighs, the medical

attendant makes out by touch the position of the uterus and the direction of the neck, and then on the index finger of one hand placed below the os tincæ causes to glide the catheter with a double current carried by the other hand as far as the external orifice of the neck; the instrument is then carried gently through this orifice at first into the cervical isthmus and then into the cavity of the uterus. The catheter having been forced in its place, the canula of a syringe charged with the fluid injection is then introduced into the external orifice of one of the branches of the double catheter. Everything having thus been prepared, the piston is worked slowly and with moderation. In the place of a syringe one may substitute an elastic bag, care being taken to moderate the force of the impulsion of the fluid by means of a tap which may serve to open or close the apparatus.

"The liquid forced through one of the eyes of the catheter over the internal wall of the uterus returns partly by the neck of the uterus and the orifice of the vulva, and partly through the external orifice of the free branch.

"It is necessary to take care to rotate the catheter and to move it about in order to facilitate the contact of the fluid with all parts of the internal surface of the womb. If the liquid does not return instantaneously either through the free branch of the sound or by the vulva, it is necessary to stop in order to avoid any possible distension of the cavity of the womb by the injection, to withdraw the catheter, to clear it, and then to withdraw the injected fluid.

"In using a syringe care should be previously taken to empty it of all the air that it contains.

"The fluid used by Dr. Hervieux for intra-uterine injections is chlorinated water of varying strength. The quantity of liquid injected at a single sitting varies from 200 to 900 grammes. Generally the injection is continued until the liquid, which at first flows away in a very saline condition and charged with sanguinary, purulent, and pseudo-membranous detritus, becomes clear and limpid."

Cases are reported by Dr. Hervieux to show the utility of intra-uterine injections, and the memoir is concluded with the following clinical observations:—

"The cases which are here given leave no room for doubt as to the utility of intra-uterine injections in cases of suppurative endometritis. In all instances, without any exception, these injections determined a more or less rapid amelioration of the general and local phenomena which conducted the patient to recovery.

"The pathological fact to which they were specially directed—viz., the fetor of the lochia—was in all instances instantaneously and considerably modified. In fact, immediately after the introduction of the catheter with a double current into the cavity of the uterus there flowed away either a thick flocculent pus of a yellowish or greenish color, sometimes with a pink or red tint, or a sanious and serous fluid grayish in color, more or less thickened with a purulent or pseudo-membranous matter. But as soon as a sufficient quantity of detersive liquid had been forced through the catheter, this, which at first came away mixed with pus, blood, or organic detritus, finally returned in a pure and limpid condition. Immediately after the injection detersion was complete. During the following hours the secretion was reproduced more or less abundantly, but always in a much less fetid condition and with a better appearance. Thus, as a first result, we have immediate diminution, if not complete abolition, of the fetor of the lochial discharge. At a later period as the uterine secretion improves in its appearance and odor, it diminishes in quantity, until at last its physiological quality and quantity is restored.

"Uterine catheterism, by allowing us at each sitting to measure the height of the cavity of the womb, has shown that the injections have the action of accelerating the retrogressive movements of the organ, which sometimes has a tendency to remain stationary. In less than forty-eight, and even twenty-four hours in some cases, we have obtained by intra-uterine injections differences of four or five centimetres in the height of the cavity.

"A not less precious result, and one which is almost constant, is the progressive diminution of the fever. At the same time that the lochia improve in appearance, the pulse sinks, and in many of the reported cases one was able to

follow its gradual descent from 108, 112, and sometimes 120, to 104, 96, 92, 84, &c. There is then an undoubted connection between the condition of the lochia and the febrile state. To disinfect the lochia and to restore their normal quality and abundance, is to lower the fever and to re-establish the disturbed equilibrium. With the fall of the pulse coincides the disappearance of all the general phenomena which accompany the febrile condition: cephalalgia, lingual saburra, loss of appetite, constipation or diarrhœa, agitation, insomnia. Even the abdominal pains, that constitute, always more or less, of a grave index of the local condition, are promptly relieved, and at the end of a few days one observes order and calm to succeed in the organism to the preceding train of menacing symptoms.

"In one of my patients, in consequence of her wilfulness and of a resistance against which I thought it right not to contend, intra-vaginal were substituted for intra-uterine injections. A renewal of the general and local symptoms was the consequence of this substitution. The intra-uterine injections having been re-established at the request of the patient herself, amelioration again established itself, and a cure was produced.

"If one considers of how many serious puerperal maladies putridity of the lochial flux may be the cause, it will be conceivable how great an interest we have in contending by all possible means against this putridity. Intra-uterine injections are and will remain a precious resource in all cases where there is reason to dread the effects of morbid alterations in the lochial discharges. When, for example, after a severe rigor a violent febrile action is manifested, accompanied by more or less acute hypogastric pains and by fetid lochia, are we not authorized in having recourse, concurrently with ordinary measures, to those injections which experience demonstrates to be really efficacious in bringing about the cessation of that fetor which always indicates a serious local condition?

"The question remains of the danger attending intra-uterine injections. I will not venture to assert that this is completely answered by my reported cases. Although I have not had any bad results to deplore, it does not follow that my practice in this respect will be always successful. However, I make the remark that Averard's catheter, by offering to the injected fluid an ever free and ready issue, prevents the effects of the retention of this fluid in the uterine cavity—a retention which has undoubtedly caused many catastrophes registered in the annals of science. In the second place, even when danger by this means cannot be altogether guarded against, I affirm that in the presence of the terrible consequences to which morbid changes in the lochia may give rise in lying-in women, it is not logical to repudiate a powerful method of cure under the pretext that it may in certain exceptional cases compromise life. This is more rational than to reject chloroform because this agent likewise exposes the patient to the risk of sudden death; bleeding, because it may cause phlebitis; opium or belladonna, because these drugs may, even in small doses, occasionally cause poisoning.

"Intra-uterine injections therefore should be retained in practice; and speaking for myself, I shall never hesitate in having recourse to them whenever an impure condition of the lochial flux threatens the introduction into the organism of a poison which we know to be so frequently fatal."

ART. 258.—*Chronic Metritis in its Relation to Malignant Disease of the Uterus.*

By E. NOEGGERATH, M.D.

(*The Medical Record*, November 15, 1869.)

At a meeting of the New York Academy of Medicine, held October 21st, Dr. E. Noeggerath read a paper in which he presented the result of a few observations intended to establish new facts concerning the connection between chronic metritis and malignant disease of the uterus. He first made a few remarks with regard to the condition usually called *chronic metritis*, a term now

vaguely used, being applied to every pathological condition which exhibits signs of an inflammatory nature. He formerly committed the same error, calling all those pathological conditions of the womb chronic metritis which manifested themselves by tenderness, swelling, and an increased diameter of the uterine axis, and which were benefited by a so-called antiphlogistic treatment. The diseases most frequently thus misnamed are—congestion of the entire or part of the uterus, with or without catarrh and erosions; imperfect involution, with catarrh of the body; circumscribed or diffused hypertrophy of the utricular glands; chronic perimetritis, with secondary affection of the uterus; retroversion or retroflexion; accompanied by obstruction of venous circulation; imperfect involution of the seat of placental attachment; submucous infiltration of part of the body or of a section of the cervix.

One reason why so many different diseases have been comprised under this name is the fact that most of them are productive of the same class of rational or subjective symptoms indicating irritation.

2d. The so-called antiphlogistic or alterative treatment applied to either of the above pathological conditions, has led to similar beneficial results.

3d. The differential diagnosis is very difficult to establish, even with thorough knowledge and ample experience.

Lastly, one of the leading authors in gynæcology, Professor Scanzoni, has described quite a large number of uterine diseases, in his well-known pamphlet, under the name of chronic metritis, stating that the disease in question took not only the first rank in frequency among the several affections of the female sexual organs, but even among the diseases to which the human body in general is liable. These are the causes which have contributed to render the name of chronic metritis rather vague, and make it desirable to have its meaning restricted to certain well-defined limits.

The disease which he means manifests itself by certain peculiarities which give it a distinct character, and enable us to recognize it from among other similar conditions.

With regard to its pathogenesis, all authors, with very few exceptions, agree as to its inflammatory character. The view generally entertained is that advocated by Scanzoni, generally known and usually accepted. His own views on its origin, based on close study of the subject for many years, are somewhat at variance with those now in vogue and coincide exactly with those entertained by Professor Seyfert, of Prague.

With a single exception he has never seen a case of so-called chronic parenchymatous metritis develop itself in a uterus outside of the puerperal state.

The idea so generally adopted that chronic metritis is the secondary stage of acute metritis, is entirely erroneous. The former stands in the same relation to the latter as cirrhosis of the liver does to acute inflammation of that organ. They are two distinct affections.

Acute inflammations of so-called parenchymatous organs are exceedingly rare, and this holds good especially with regard to the uterus outside of the puerperal state. The latter affection is of such rare occurrence that the doctor declares to have seen it certainly not more than two or three times. Its issue, however, is not chronic metritis, but either resolution and restitution ad integrum, or shrinking of the organ in all its diameters. Suppuration also has been seen in a very few instances.

Nor has he ever observed chronic metritis as a sequel of so-called uterine irritation, passive vascular congestion, catarrh, endometritis, perimetritis, fibroid tumors, dislocation or disease of the heart. In one single instance he had met with it as a result of cachexia, coexisting with chronic induration of the ovaries and liver.

The disease in question is the combined result of subinvolution of the uterus and a process of exudation which takes place in the tissue of the uterus immediately after delivery, in consequence of puerperal fever. This interruption of retrogressive metamorphosis takes place whenever the natural involution of the uterus is interfered with by some injurious influence, so that the absorption of the exuded masses deposited between the muscular elements cannot be properly

accomplished. This results in a development and permanent deposit of cellular tissue within the walls of the uterus.

Both cavities and tissue of body and neck are always equally enlarged. The affection extends over the entire organ. All those cases which have been described separately as chronic metritis of the body and of the neck are affections of quite a different character and bearing. By exploring the uterus with the sound, we find that the long diameter is always considerably increased, say from three-quarters of an inch to two and three inches. Not so, however, with the width of the canal, it being usually narrower, from the fact that the hypertrophy is rather concentric than excentric. The tissue of the uterus is exquisitely anæmic and brittle. The capillaries being compressed to a high degree there exists very little secretion from the membrane lining the cavity. A peculiar kind of granulations which he has seen only in this form of disease, characterized by their irregular flattened shape and grayish, lustreless hue, very much like those seen in trachoma of long standing, owe their existence to a new formation of conjunctive tissue in the mucous membrane of the uterus itself.

The loss of vascular energy and the rigidity of the tissues involved explain the small amount of menstrual secretion. Wherever there exists profuse menstruation, we have to search for a complication to account for it.

The position of the uterine axis is never influenced by chronic metritis, since the enlargement is equably distributed all over its surface. Nor does any displacement of the uterus, no matter how complete, ever lead to its development.

Another peculiarity of the disease, Dr. Noeggerath said, consists in the fact that the signs characterizing the affection become latent during pregnancy, to reappear with renewed violence in the shape of an acute attack after delivery. Since he published his paper containing the data concerning this fact, in the *New York Journal of Medicine* of 1857, he has had occasion repeatedly to verify the ideas pronounced at that time, and he is now more than ever convinced that pregnancy and delivery in a woman suffering from chronic metritis will rather do harm than good. He has seen one instance where, under these circumstances, the size of the uterus has increased with every succeeding pregnancy, so that he found the womb a fortnight after the fifth delivery to be of the size of a uterus at the fourth month of gestation.

Dr. Noeggerath stated further that true chronic interstitial metritis is incurable by our ordinary means of treatment. He has, however, succeeded in relieving a few of the cases under his care by the operation first performed by Drs. Sims and Emmet, of New York—namely, the amputation of the entire or part of the cervical portion.

Lastly, Dr. Noeggerath intended to prove that the tissue of a uterus affected with chronic metritis is apt to be transformed into papillary epithelioma.

He then read a history of six cases which he has carefully observed, and where the transformation of the tissue affected with chronic metritis into epithelioma or cauliflower excrescence could be traced step by step.

The cases reported were few in number—many, when we consider the few chances we have to observe malignant disease of the uterus at the very outset of its development—many, in view of the fact that interstitial metritis is of very rare occurrence. During the entire year which has passed, and although Dr. Noeggerath treats diseases of the female sexual organs almost exclusively, he has seen only two cases of interstitial metritis besides the three mentioned in the paper read.

In his further remarks on the subject the author gave a careful analysis of the earliest rational as well as physical symptoms indicative of beginning malignant disease. The question as to the curability of cauliflower growth is so far from being settled, that one of the most recent authors on the subject, Dr. F. Kuchenmeister, a very experienced and able gynæcological operator, declares the affection incurable. From his description of cases, however, Dr. Noeggerath is led to believe that he has observed and operated upon his own cases at an earlier period than Dr. Kuchenmeister; and in three of them, which were true villous epithelioma, no relapse had taken place—in two instances twenty months have passed without a recurrence of the disease; and in the case first described,

a careful examination of the tissue of the uterus removed after death (from epileptic convulsions), showed no trace of cancroid eight months after the operation.

It is a noticeable fact that only that variety of cancer which is called epithelioma, cancroid, has been observed in connection with chronic metritis. In none of those cases where true carcinoma was seen at that early stage of development where the condition of the uterine tissue could as yet be ascertained, was it found to develop on a neck enlarged by interstitial growth of cellular tissue. It is, however, the rule to meet with both cancroid and true cancer at such an advanced period of development that a physician must be unusually lucky who has encountered half a dozen instances of malignant disease in its early stages of development; and Dr. Noeggerath thought that he had seen more of beginning cancer than the majority of his colleagues, and thus he was enabled to collect the facts presented here for the first time. In the present confused state of pathological anatomy, as far as it relates to the pathogenesis of cancer, it would be too hazardous to offer an explanation as regards the connection between interstitial metritis and cancroid.

If the observations should be substantiated by additional facts, they would go pretty far to corroborate the views entertained by some of the most prominent advocates of the school of Virchow, Rokitansky, and Rindfleisch among the rest, who have by numerous and very careful researches arrived at the conclusion that the enormous masses of epithelial cells in a cancroid tumor derive their origin from the cellular tissue interspersed between the muscular strata.

Dr. Noeggerath would give the name of *diffused interstitial metritis* to the disease to which he referred in his paper, the first development of which, he said, is only seen during the puerperal state, and which consists in an abnormal growth of intra-muscular cellular tissue affecting the entire uterus, both body and neck being equally diseased, and which is cured occasionally by amputation of the neck. Pregnancy and delivery, he said, do not exert a beneficial influence, but are apt to prove a new stimulus to the abnormal growth of the uterus. It is a disease but rarely observed, and has a tendency to be transformed into cancroid or simple cauliflower disease.

Art. 259.—*Fibroid of the Uterus; Repeated Hemorrhages; Transfusion; Recovery.*

By Dr. Gentilhomme.

(*Gazette Hebdomadaire*, 1868; and *British and Foreign Med.-Chir. Review*, January 7, 1869.)

Dr. Gentilhomme relates a case of remarkable interest. A woman was delivered of her second child in May, 1864. At the beginning of 1865 she had a profuse flooding, which was renewed at the next menstrual epoch. A fibroid the size of a fist was found. The bleedings were repeated, so that extreme anæmia was induced, attended with the most threatening symptoms. Transfusion was determined upon. A healthy woman supplied 125 grammes of blood; the apparatus of Moncoy was used. During the first moments of the operation nothing remarkable was observed; but when the stated quantity of blood had been injected, the patient, whose cheeks had become red, cried out, "I am suffocating." Symptoms of asphyxia, thumping of the heart, general shivering, pains in the chest and loins, falling of the pulse which had previously risen, general coldness, vomiting, and great thirst set in. These symptoms lasted two and a half hours, then gradually subsided; the breathing became easier, the pains went away, the pulse became strong and regular (120), warmth returned. From this time she gradually mended, taking soup, chicken, and wine. Some time afterwards symptoms of peritonitis appeared, and pus flowed from the uterus. It was found that the fibroid tumor had been cast into the cavity of the uterus, whence it was expelled spontaneously, hanging only by a slender stalk, which was easily separated. It weighed 140 grammes.

The author does not think the threatening symptoms attending the transfusion were caused by either air or clots.

Art. 260.—*On Rupture of the Uterus.*

By Ewing Whittle, M.D., M.R.I.A., Lecturer on Medical Jurisprudence to the Liverpool Royal Infirmary School of Medicine, &c.

(*Liverpool Medical and Surgical Reports*, December, 1869.)

Dr. Whittle gives the details of five cases of rupture of the uterus which have at different times occurred in his practice, and suggests the following mode of practice, viz., when we are attending a patient, from whose antecedents and constitution, and from the slow and unsatisfactory progress of whose labor we have reason to fear that we have a feeble, flabby uterus to deal with, our first care should be to soothe the patient, and keep her quiet until the os is fully relaxed; one or two small opiates will contribute to bringing this about. Then, when the os is fully dilated, rupture the membranes, and if labor does not then proceed satisfactorily, deliver with the long forceps. In such cases as this Dr. Whittle would particularly avoid the use of chloroform, except turning or the use of the forceps had to be resorted to.

(c) Concerning the Diseases of Children.

Art. 261.—*On the Mortality of New-born Children.*[1]

(*Archives Générales*, Avril, 1870.)

The causes of the great mortality of new-born children may be arranged in the following categories:—

1. Want, which so frequently engenders the innate debility of infants.
2. The neglect, sometimes unavoidable, but very often voluntary and unjustifiable, to perform the last act of maternity, viz., maternal suckling.
3. Ignorance of the most elementary rules of the alimentation and physical education of an early age, and also the prejudices of every kind which result from this ignorance.
4. The abuse, unfortunately too widely spread, of artificial milk supply, always inferior to the maternal milk supply, and the difficulties in the application of which nearly always render it a dangerous method of alimentation.
5. Premature alimentation, which ought not to be confounded with an artificial milk supply, although these are always associated together.
6. The absence of necessary hygienic precautions, and especially the chilling to which new-born children are so frequently exposed during transport.
7. The neglect of medical precautions at the commencement of disturbances of health.
8. The want of regular supervision and medical inspection, as much in the matter of the recruiting of nurses as in that of the attentions to be paid to the infants.
9. The objection, still too general, of carrying the children to the mayor for the declaration of the birth.
10. The culpable carelessness and indifference of parents with regard to putting out children to nurse.
11. The frequent postponement of vaccination.
12. The localization of the nursing industries into too small a number of departments, whence the poorness of the blood of the women in these same departments.
13. The great number of illegitimate births.
14. Finally, the more or less criminal acts which constitute all the marked varieties of infanticide.

---

[1] Report of the Commission of the Académie de Médecine.

Art. 262.—*On the Treatment of Incontinence of Urine in Childhood and Youth by Collodion.*

By Sir D. J. Corrigan, Bart., Physician in Ordinary to the Queen in Ireland.

(*Dublin Quarterly Journal of Medical Science*, February.)

The treatment of this affection may be divided under two heads: the first, the constitutional treatment, being that conducted on the principle of strengthening the whole system, in the hope of including in it the erring organ: the second, that of dealing directly with the organ in fault.

With the first, or that of constitutional treatment, Sir Dominic Corrigan does not deal at all in the present paper.

The second head of treatment, or that of dealing with the organ at fault, has two subdivisions. The first having reference to medicines supposed to exert a specific action on the bladder, such as blisters, belladonna, copaiba, and to preparations of iron acting with a double effect, local and constitutional. and the second relating altogether to mechanical means of treatment, all difficult or impossible to be carried out. It is with this last Sir Dominic now proposes to deal.

Various mechanical means of treatment have been recommended.

Long time since Sir Dominic tried to close the opening of the prepuce with adhesive plaster, or court plaster, and in one case, that of a young man of twenty years of age, who had entered the army, and who was intelligent and careful, the result was favorable, but there were great difficulties about it. The application took time, and could not be carried into successful effect with boys and children.

The mechanical treatment to which the author now draws attention is the treatment by collodion. It is most easy of application, occupies scarcely a minute, and can be carried out at school, college, or elsewhere, in perfect privacy.

All that is necessary is, while the prepuce slightly curved up is held with the left hand, to smear over the little cup thus formed by the extremity of the prepuce with collodion by means of a small camel's hair pencil or blunt end of a penholder. Almost as fast as applied the collodion solidifies. In contracting it draws closely together the edges of the prepuce, and thus the exit for the escaping urine is closed.

A boy of eleven years of age has, after one lesson, been able to use the collodion, and has used it every night carefully and diligently, so anxious has he been to cure himself of what he considered a disgrace. A fortnight's use is sometimes sufficient for the cure. A relapse is easily dealt with. A solution of gutta-percha in chloroform would seem at first sight to be equally applicable, but it is not. The solution of gutta-percha is much longer in hardening, and it possesses no contractile powers.

When the child or youth desires to pass water the little wedge or cap of collodion is easily removed with the finger nail.

When sir Dominic first used this collodion application, his expectation was, that the bladder would act so forcibly against it as to cause sudden pain, and oblige the patient to jump at once out of bed and quickly remove the collodion, and that he should then repeat the application before returning to sleep.

He was agreeably disappointed. There was no pain; no awaking; but on rising in the morning the prepuce was found slightly distended with urine, and the collodion was removed without difficulty.

This unexpected result would lead us to infer that the action of the muscular contractile fibres of the bladder has little to do in causing the nocturnal incontinence of urine in childhood, and that the escape of the fluid is rather due to want of apposition in the sides of the canal of the urethra, or to a feeble state of the circular fibres which are supposed to constitute the sphincter of the neck of the bladder.

Acting on this view, Sir Dominic Corrigan has recommended the child's bed to be made in such form as that while preserving the usual slope for head and shoulders, the rest of the bed shall gently rise as an inclined plane, from hips to feet, so as to allow the urine in the bladder to gravitate towards the fundus, rather than towards the trigone.

In all the instances in which the author has used the collodion application the prepuce has been, as, he believes is nearly always the case in children and boys, projecting over the glans, or in a state that may be designated as natural phimosis. But Sir Dominic does not anticipate any difficulty in using the same application in cases where the corona glandis might be exposed, as the collodion would, he should expect, act equally well over the orifice of the urethra as over the opening in the prepuce.

In conclusion, Sir Dominic expresses a strong opinion against the practice of awaking the child at stated intervals to pass urine; he has never seen any benefit whatever from it, and he thinks he has, on the contrary, always seen aggravation of the affection from it, not unreasonably to be explained, on the principle that such practice is really training the bladder to empty itself at stated periods, when the object is that it should be trained to retain its contents.

ART. 263.—*On Infantile Palsy.*

By RICHARD VOLKMANN, M.D., of Halle.

(*The Lancet*, March 5.)

Dr. Volkmann says that the sensibility in infantile paralysis is scarcely ever disordered, the bladder and rectum never implicated, and the sexual functions unaffected. The treatment may be considered hopeless, no important change occurring in any case which has lasted for six months or a year. Even electricity does no good.

ART. 264.—*The Sulpho-Carbolates in the Treatment of Certain Diseases of Children.*

By ERNEST SANSOM, M.D.

(*The Lancet*, January 15.)

At a meeting of the Obstetrical Society of London, held January 5th, Dr. Sansom read a paper on the above subject. He commenced by describing the chemical properties of sulpho-carbolic acid, and of its compounds with sodium, potassium, ammonium, calcium, zinc, and copper. The active agent in these salts is carbolic acid, which enters largely into their composition. The salts themselves are much inferior as direct antiseptics to the less stable carbolates, and when administered internally, they are apparently absorbed from the stomach without decomposition, and give off their carbolic acid by chemical change in the tissues. They are exceedingly soluble, by no means unpleasant to the taste, and never seem to produce toxic effects. Dr. Sansom then proceeded to describe the various cases in which he had used the salts, giving abstracts of a considerable number. Those in which he had found them most serviceable were zymotic diseases, especially scarlatina, measles, and diphtheritic sore-throat. In all of them he had met with strikingly beneficial results. In these he had chiefly employed the sulpho-carbolate of sodium, in doses of from five to ten grains every four hours. In rachitis, malnutrition, and diarrhœa, he recommended the sulpho-carbolate of calcium.

Art. 265.—*Notes on Anointing in Infantile Disorders.*

By H. Guard Knaggs, M.D., F.L.S.

(*The Lancet*, January 22.)

During the past eleven months Dr. Knaggs has been testing, with uniformly successful results, the value of a very simple method of treating such infantile complaints as atrophy, bronchitis, convulsions, diarrhœa, febrile disturbances generally, and indeed all disorders of childhood which are accompanied by an unnatural state of the skin.

The treatment simply consists in smearing with salad oil the whole surface of the body, from the crown of the head to the tips of the fingers and toes, the process being repeated every twelve, six, or even four hours, according to the urgency of the case. Of course, the use of a long flannel gown or small blanket is obvious, and the fluid should be slightly warmed.

The application of oil, the author writes, possesses the following immense advantages over the ordinary warm bath :—

1. Skin-action is more completely and permanently restored.
2. The danger of reaction is avoided, for there is no sudden change of temperature ; and moreover the sheet of oil protects the surface from atmospheric influences.
3. It acts as a fuel-food, not only preventing waste of tissue, but actually increasing the bulk of the little patient.
4. It does not depress, but, on the contrary, appears to exhilarate.

It will scarcely be credited by many that the formidable affections above mentioned will frequently yield to this treatment, or at any rate show signs of abatement in from twenty minutes to four-and-twenty hours, but such is the case, though sometimes forty-eight or even seventy-two hours will elapse before any decided signs of improvement occur.

APPENDIX.

ART. 1.—*The Present Prospects of the Sewage Question in Relation to the Public Health, with a Brief Review of the First Report of the Commissioners appointed in* 1868 *to Inquire into the best Means of Preventing the Pollution of Rivers.*

By HENRY LETHEBY, M.D.

(*Medical Times and Gazette*, June 11.)

At a meeting of the Association of Medical Officers of Health, on May 21st, Dr. Letheby read a paper on the above subject. Hasty and inconsiderate legislation, said Dr. Letheby, promoted by those who had no real knowledge of the subject, had brought the whole question of the disposal of sewage into such a state that the public are not only loud in their complaints, but emphatically demand a remedy. A review of the Parliamentary history of the subject led to the conclusion that the Legislature had become so perplexed that they were glad to dispose of the subject by hasty legislation, or by handing it over to some Royal Commission not always discreetly selected. Bad as was this state of things, the future prospect was still more gloomy; for it was to be feared that the same incompetent sanitarians who had brought on the present difficulties, would also be concerned with the future disposal of the question, and that Parliament would have again to correct the errors of inconsiderate legislation. If this could be prevented it would be of vast importance to the public, and the medical officers of health of the metropolis were especially fitted to aid in the task. Dr. Letheby then explained the complex nature of sewage, showing how each constituent had its specific influence on the general mass, and on the putrefaction to which it is subject. Although precise information was difficult to obtain, still the subject might be approached in two ways—by ascertaining the average amounts of solid and liquid matter contributed by each individual and by each trade; and by analyzing the daily sewage collected at various seasons. It was calculated by competent authorities, that the average amount contributed by each individual was 42.25 ounces of moist, or 2.25 ounces of dry matter daily. The general average of the washings of streets gave 262.6 grains of solid matter per gallon; of which 113.3 grains were dissolved and 149.3 were suspended. The refuse of factories was determined by the second method, and it was found that the sewage discharged by day in the metropolis, contains about 94 grains of solid matter per gallon, of which 38 are suspended and 56 dissolved. The night sewage contains only about 79 grains of solid matter per gallon, of which 24 are suspended and 64 dissolved. Taking the average of all the results obtained the metropolitan sewage may be said to contain about 90.4 grains of solid matter per gallon, of which about 29.8 are suspended and 60.6 dissolved, there being about 15 grains of organic matter in each of the constituents. Examined under the microscope, the clear liquor is found to contain a large quantity of amorphous organic matter, and swarms with the lower forms of animal life; but on exposure to the air higher forms of infusoria appear. The sedimentary matter consists of undigested food, and also the products of some of the secretions, with a large quantity of black amorphous matter. When sewage has a very offensive odor it rarely exhibits much sign of animal life, but when diluted with water and exposed to the air, the bad odor disappears, and the higher forms of infusoria are developed, showing plainly the salutary influence of air and water in promoting less noxious kinds of decay. The mud on the banks of the Thames Dr. Letheby formerly found to contain only the lower forms of animal life, whereas in the middle of the stream, where there was an abundance of air and water, the highest forms of infusoria abounded. In rivers which receive the sewage of large towns the sedimentary matters deposit and putrefy, but the supernatant water containing all the soluble constituents passes on, and rapidly becomes clearer and clearer, until its organic matter is appropriated by liv-

ing beings or destroyed by oxidation. This process is demonstrated by the improvement in the color and odor of the water and the character of the vegetation. Dr. Letheby insisted upon this because the Rivers Pollution Commission were at variance with him on this point. He complained that his evidence had not been fairly quoted, for he had mentioned oxidation only as one of the many purifying agencies in a running stream. The investigations made by the Commission were severely criticized by Dr. Letheby because they had been made in winter time, when most of the agencies to which he referred were dormant, and because the air and sewage were inclosed in a bottle—a process which was highly unsatisfactory. In proof of his position, Dr. Letheby appealed to the large facts of nature; for everywhere our rivers were receiving the sewage of towns, and were yet undergoing a rapid self-purification. His view was likewise confirmed by Dr. Miller, Professor Odling, Dr. Taylor, Dr. Angus Smith, Mr. Hawksley, and other eminent authorities. Dr. Hofmann and Mr. Witt, in 1858, reported to Government that the formation of mud deposits in the bed of the Thames was by far the most serious evil resulting from the discharge of London sewage into the river. Dr. Odling reported to the Board of Works to a like effect. The chief point then to be arrived at was the rapid separation of the suspended matter in sewage, leaving the soluble constituents to mix freely with running water, to be appropriated by infusoria, or destroyed by oxidation. This process is best effected by keeping the solid matter out of the sewage. At Salford the plan of Mr. Goux is adopted, whereby the soil is received into tubs lined with some refuse absorbent. The Pollution Commissioners condemn this plan *in toto*. Their pet scheme is irrigation in all places, and under all circumstances. To carry out this plan, Dr Letheby maintained that a porous soil was necessary, that the farm should be well adapted for the flow of drainage, that it must not be within reach of danger from atmospheric miasms, that it must have a ready market for its produce, and have an extent of not less than two acres for every hundred head of population. Even if all these conditions could be secured, the objections to the process on sanitary grounds are numerous; for land irrigated with sewage is always a fetid swampy morass, as witness the Craigintinny meadows near Edinburgh. At Norwood, at Beddington, at Aldershot, and at Banbury, the sewage farms are the subject of serious complaints. These miasms are not only offensive, but also dangerous to health; in fact, it was the clearness of this danger which formed the motive for Parliamentary inquiries and enactments. If they are not injurious to health, then why all this extensive and elaborate machinery for getting rid of them? Dr. Murchison traced a particular fever to this very source, sewer gases being, in his opinion, the primary cause of enteric fever; and Mr. Creasy testifies to the prevalence of typhoid fever in the neighborhood of the sewage farm of Beddington. Dr. Letheby mentioned a number of places investigated by himself, which gave similar results. Again the efficacy of sewage irrigation is dependent on the percolation of sewage matter, and the distribution of it through the subsoil water. It follows then that this water must be polluted to such an extent as to endanger the neighboring wells; as has been found by experience in many places. What evils would follow from this cause can easily be imagined, and if Prof. von Pettenkofer's theory of the connection between subsoil water and cholera be correct, what frightful evils are we not preparing for ourselves? And yet another evil was to be feared, if the plan of the Commission were carried out, viz., the propagation of parasitic diseases. The ova of intestinal entozoa, distributed with sewage upon the land, would become attached to the crops, would be eaten by cattle, whose flesh would infect man. At present their access to the bodies of herbivorous animals is accidental; make it certain, and what would be the consequence? Dr. Cobbold's views on this subject admitted of no doubt. Although Dr. Letheby admitted that theoretically good results might be obtained from this system, yet so much care and attention was necessary that it could not be advantageously carried out in practice. A heavy flood of rain, dormant vegetation, or frost, were sufficient to derange that nice adjustment that was necessary to prevent the fecal water from running over the surface and polluting all the wells. The other means of dealing with sewage so as to separate the suspended matters and to remove a certain portion of those which are dissolved, is to submit it to chemical treatment. At Leicester, at Hertford, and formerly at Tottenham, the sewage was defecated with lime. About twelve grains of lime to a gallon of sewage was found to effect a speedy separation of all the suspended matters, and also about one-fourth of the dissolved organic matter, leaving a clear liquor, which, when mixed with six or seven times its bulk of water, is no longer offensive. Crude sulphate of alumina is another precipitating agent, and is used at Stroud, the sulphate being made by

adding about 20 lbs. of sulphuric acid to a cwt. of powdered clay. Chloride of iron with lime is also a powerful defecator; it was formerly used at Northampton, and still is to some extent with lime. At Leamington the A.B.C. process of Mr. Sillar is in use. The substance used is a mixture of alum, clay, sulphate of magnesia, &c., diffused through water. Lastly, there is the process of Mr. Blythe, of adding a soluble phosphate of lime and sulphate of magnesia to the sewage. By these processes sedimentary matter is drawn from the sewage, and a considerable portion of dissolved organic matter is removed; but to be successful there must be good agitation of the sewage, and sufficient tank room for holding the sewage for not less than four hours. There should also be a means of filtering the defecated sewage before setting it free. Dr. Letheby would not enter upon the pecuniary point of the question, further than to warn enthusiasts against glowing accounts of commercial profit. Wherever sanitary improvement was the main object no profit was anywhere derived. His object, however, was to point out the serious dangers in the rash recommendations of the Royal Commission. A Royal Commission without any pretence of medical knowledge was singularly incompetent to deal with such a question.

INDEX TO VOL. LI.

PAGE

Absorption, cutaneous. By Dr. Brémond 138
Acid, carbolic, on the employment of, in surgery. By Joseph Englisch, M.D 152
" " on the internal use of, for syphilis. By Dr. M. Köhn 151
" " on. By T. A. Redwin 147
" hydrocyanic, on poisoning by. By M. Bonjean 106
Acidum phosphoricum dilutum, the physiological action and therapeutical uses of the. By J. B. Andrews, M.D 148
Aconite, a case of poisoning by. By Robert Dunn 101
Adams, Mr. E., case of partial placenta prævia 253
Adelmann, Dr., on flexion as a means of arresting hemorrhage 141
Agnew, Dr. C. R., method of dressing eyes after cataract extraction, and other ophthalmic operations requiring rest by exclusion of light 181
Albu, Dr. J., contribution to the therapeutics of laryngeal diphtheria 121
Alopecia areata, pathology of. By Prof. Rindfleisch 98
Althaus, Dr. J., on the treatment of hysteria in the male 44
Anæsthesia, on the production of, and on a new anæsthetic compound for that purpose. By B. W. Richardson, M.D., F.R.S 123
Anæsthetic, methylic ether as on 127
" protoxide of nitrogen as an. By M. Jeannel 125
Anæsthetics, the administration of. By Ernest Sanson, M.D 125
Anderson, Dr. J. McCall, on the constitutional treatment of diseases of the skin 92
" " on the treatment of syphilis 168
Andral, M., on the influence of morbid changes in the blood on the variations in the temperature of the human body 19
Andrews, Dr. J. B., on the physiological action and therapeutical uses of the "acidum phosphoricum dilutum" 148
Aneurism cured by the subcutaneous injection of ergotine. By Prof. Langenbeck 223
" of the profunda femoris, case of. By J. E. Erichsen 228
" of the aorta, Croonian lectures on. By Dr. Sibson 66
" popliteal, a case of, treated by digital compression. Under the care of Mr. Barnard Holt 229
" " a case of. Under the care of G. E. L. Pearse 230
Aneurisms, treatment of. By Dr. Fischer 138
Angina pectoris, a case of, relieved by nitrate of amyl. By F. E. Anstie, M.D 141
Anosmia, on. By William Ogle, M.D 20
Anstie, Dr. F. E., a case of angina pectoris, relieved by nitrate of amyl 141
" " case of pyæmia 156
Antrum of Highmore, case of expansion of the. By the late C. H. Moore 174
Anus, imperforate, on. By Christopher Heath 214
Aphonia, hysterical, treatment of 45
Apoplexy, cerebral, in cases of considerable pleuritic effusion. By M. Vallin 9
Arsenic, on the effects of, in phthisis. By Dr. Isnard 116
" therapeutical use of, in phthisis 117
Arteritis, general chronic, case of. By Samuel Wilks, M.D 23

PAGE
Artery, internal carotid, on ulceration of the. By M. Jolly 190
Asthma and emphysema, on the therapeutical employment of compressed air in. By Dr. Gent 138
" on the treatment of, by tobacco. By Dr. Sée 117
Astigmatism, modifications of, produced by the accommodation. By Dr. W. Dobrowsky 175
Atlas, dislocation of the, upon the axis. By Dr. Forbes 225
Aulnoit, Dr. Houze de l', on strangulation of the tonsils 174

Banks, Mr. W. M., on some peculiar results of injury to digital nerves 221
Barker, Dr. Fordyce, on sea-sickness 39
Bauer, Dr. Louis, on recto-vesical lithotomy 198
" " on retro-curvation of the knee 235
Beale, Dr. Lionel, self-illuminating ophthalmoscope 135
Belladonna, poisoning by extract of. By Hibbert Taylor, M.D 101
Bernard, Prof. Claude, on the combined action of morphia and chloroform 126
Berncastle, Dr. J., extraction of double cataracts with closed pupils, and recovery of good sight, after thirty years' total blindness 180
Bert, Prof. Paul, on the physiological effects of curara 132
Billroth, M., on the morphological process in inflammation 32
Blackman, Dr. G. C., pendulous pedunculated bronchocele successfully removed 188
Blood, on the influence of morbid changes in the, on the variations in the temperature of the human body. By M. Andral 19
" on transfusion of. By Dr. Marmonier 254
" the process for detecting in medico-legal cases. By A. S. Taylor, M.D., F.R.S 105
Bonjean, M., on poisoning by hydrocyanic acid 106
Bouchard, M., on the pathology of cerebral hemorrhage 10
Bouchut, M., on hydrate of chloral 107
Bouillaud, Prof., on the differences between inflammatory and pyretic diseases 155
Bourguet, M., on the treatment of effusions of blood in cases of compound fracture .. 165
Brachet, M., a case of traumatic tetanus treated successfully with douches and shampooing 166
Brémond, Dr., on cutaneous absorption 138
Bright's disease, on the diagnostic value of the corpuscular blood elements in the urine of. By Joseph G. Richardson, M.D 82
Bronchocele, pendulous pedunculated, successfully removed. By G. C. Blackman, M.D 188
Brown, Br. Bedford, on the treatment of certain complications of hooping cough 53
Brunton, Dr. John, successful reduction of prolapsed funis 252
Bubo, on subcutaneous injection of. By Dr. Wertheim 209
Bryan, Dr. J. M., large femoral hernia in a male 200
Bryant, Mr. Thomas, on disease of the knee-joint 233

Cæsarean operation, on the. By M. Guéniot 255
" " By M. Tarnier 258
Calcaneum, on the value of extirpation of the. By Professor Polaillon 227
Calculus, vesical, on the recurrence of. By Walter Coulson 196
Cancer and tubercle, on the propagation of, to the surface of the pleural serous membrane. By M. Lepine 34
" of the tongue, operations for removal of 186
Cancerous affections successfully treated. By E. A. Kunkler 39
Cargill, Dr. Jasper, case of partial placenta prævia 252
Cataract, further remarks upon the peripheral linear section for. By Professor A. von Graefe 180

PAGE

Cataracts, extraction of double. By J. Berncastle, M.D. 180
Catheter, extraction of a, by the umbilicus. By M. Foltz 212
Cerebritis, idiopathic general. By Charles Elam, M.D. 11
Charcot, M., on endocardial ecchymoses in cerebral hemorrhage 66
" on the pathology of cerebral hemorrhage 10
Children, new-born, on the mortality of 277
Chloral, hydrate 111
" " of. By M. Bouchut 107
" " in affections of the nervous system. By T. S. Clouston, M.D. 108
" " on the use of, per anum 108
" an antidote to. By M. Liebreich 106
" and its therapeutical uses 113
" experiments with. By Hasket Derby, M.D. 109
" on the dangers from the administration of. By M. Laborde 109
" the mode of preparing 114
" therapeutic note on. By the late Sir J. Y. Simpson, Bart, M.D. 112
Chlorodyne, the composition of. By Edward Smith, F.C.S. 134
Chloroform, memoranda respecting the administration of 127
" on the influence of, in promoting cutaneous absorption. By A. Waller, MD. 126
" on death by. By Benjamin W. Richardson, M.D., F.R.S. 104
" remarks on a case of death while under the influence of. By the late Sir J. Y. Simpson, Bart 103
Cholera, cases of, treated by hypodermic injection of liquor ammoniæ. By A. Christison 137
Cholmeley, Dr., cutaneous eruption resulting from the administration of bromide of potassium 97
Chorea, case of, during pregnancy. By James Russell, M D 47
" clinical facts in reference to. By Professor Steiner 45
" contributions to the pathology of. By Henry M. Tucknell, M.D. 46
Christison, Mr., cases of cholera treated by hypodermic injection of liquor ammoniæ 137
Cincho-quinine, a new preparation from Peruvian bark 117
Clavicle, extirpation of the. By Dr. Britton 226
Clinical notes. By S. O. Habershon, M.D. 24
Clouston, Dr. T. S., on the use of hydrate of chloral in affections of the nervous system 108
Clymer, Dr., on the glycerine of tannin 122
Collier's lung, case of 59
Constipation, the therapeutics of chronic. By J. K. Spender, M.D. 70
Contagion and infection, on the differential characters of. By M. Moura 18
Convulsions, puerperal, on. By J. Hall Davis, M.D. 265
Coote, Mr. Holmes, on lithotrity and lithotomy 196
" " on polypus and stricture of the rectum 215
" " on rachitis 227
Copaiba as a diuretic 143
Corelysis, a method of. By G. Passavant, M.D. 179
Cornea, contributions to the pathology of burns of the, from lime. By Dr. de Gouvea 179
Corrigan, Sir D. J., on the treatment of incontinence of urine 278
Coulson, Mr. Walter, on the recurrence of vesical calculus 196
Croup, the local treatment of. By Adolph Weber, M.D. 62
Curara, physiological effects of. By Professor Paul Bert 132

Davis, Dr. Hall, cases of metro-cellulitis 266
" " on puerperal convulsions 265
Decaisne, M., remarks on lactation 262

PAGE

Delivery, premature, the induction of, as a prophylactic resource in midwifery. By J. Gaillard Thomas 240
Demarquay, M., on gangrene of the penis 205
" on the reproduction and reunion of divided tendons 231
Derby, Dr. Hasket, experiments with chloral 109
Dermatology, the lectures on, at the College of Surgeons. By Professor Erasmus Wilson, F.R.S. 83
Despres, Dr., on the glands of the mucous membrane of the neck of the uterus 267
Diabetes, cases illustrating the use of opium in the treatment of. By F. W. Pavy, M.D. 81
" on certain morbid changes in the nervous system associated with 79
Diarrhœa, treatment of, at the Evelina Hospital for Sick Children 72
Dickinson, Dr. W. H., on certain morbid changes in the nervous system, associated with diabetes 79
Digitalis in heart disase. By Sidney Ringer, M.D 142
Diphtheria, laryngeal, contribution to the therapeutics of. By Dr. Albu 121
Disease, influence of nutriment on. By Dr. Salisbury 41
Diseases, inflammatory and pyretic, on the differences between. By Prof. Bouillaud 155
" puerperal. By J. Braxton Hicks, M.D., F.R.S. 263
Diuretic, copaiba as a 143
Dobrowsky, Dr., modifications of astigmatism produced by the accommodation 175
Drasche, Dr., on the cold-water treatment of fever 28
Dressing, surgical, the use of carded oakum as a 135
Dunn, Mr. Robert, a case of poisoning by aconite 101
Dust and disease, a lecture on. By Professor Tyndall 15

Ecchymosis, endocardial, in cerebral hemorrhage. By MM. Joffroy and Charcot.. 66
Eclampsia, on the chloral treatment of. By the Baron von Seydewitz, M.D. 110
Eczema and psoriasis, on the treatment of. By M. Lipp 96
" rubrum, the local treatment of. By J. K. Spender, M.D. 95
Elam, Dr. Charles, on idiopathic general cerebritis 11
Electricity, on the application of, in labor. By M. de Saint-Germain 251
" on the clinical uses of. By J. Russell Reynolds, M.D., F.R.S. 136
Elephantiasis arabum, on 99
" nævoid. By Thomas Smith 165
Empyema, a case of, treated by paracentesis, and subsequently by blistering; cure. Under the care of Dr. Andrew Clark 58
Endometritis, on. By C. H. Routh, M.D 268
Englisch, Dr., on the employment of carbolic acid in surgery 152
Epithelioma of the lip. Under the care of Mr. Erichsen 185
Ergot, case of poisoning by. By G. S. Oldright, M.D 100
Erichsen, Mr. J. E., case of aneurism of the profunda femoris 228
" " " epithelioma of the lip 185
Eruption, cutaneous, resulting from the administration of bromide of potassium. By William Cholmeley, M.D 97
Ether, methylic, as an anæsthetic. By B. W. Richardson, M.D., F.R.S. 127
Eye disease, on counter-irritation in. By Furneaux Jordan 185
" injury of, from foreign body; extirpation. Under the care of Mr. Soelberg Wells 182
" report on the use of setons and other counter-irritants in diseases of the 183
Eyes, a method of dressing, after cataract extraction, and other ophthalmic operations. By C. R. Agnew, M.D 181
Eyelids, upper, the extirpation of the fibro-cartilage of the, for the cure of certain cases of entropion and trichiasis. By B. A. Pope, M.D 178

PAGE

Femur, fractures of the. Under the care of T. W. Nunn 239
Fergusson, Sir W., Bart., on lithotomy and enlarged prostate 193
Ferrand, Dr., on the absorption of iodide of potassium by the skin 126
Fever, cold-water treatment of 28
" puerperal, on. By Wynn Williams, M.D 265
" " report of a case of. By Tyler Smith, M.D 254
" relapsing, on. By Charles Murchison, M.D., F.R S 31
" " " By Dr. Broadbent 38
" scarlet, on the prevention and treatment of. By Charles F. Routh, M.D 25
" " sine eruptione. By C. H. Robinson 27
" " treatment of. By Sir William Jenner, Bart 26
" typhoid, on the use of the thermometer in. By M. C. Paul 31
Fischer, Dr., on the treatment of aneurisms 158
Fistula, salivary, case of. Under the care of Mr. Pick 175
Foltz, M., extraction of a catheter by the umbilicus 212
Fontaine, M., on the treatment of gout 25
Forbes, Dr., dislocation of the atlas upon the axis 225
" on dislocation of both bones of the forearm forwards 224
Forearm, dislocation of both bones of, forwards. By Dr. Forbes 224
Forster, Mr. Cooper, on torsion 160
Fournier, Dr. Alfred, on chancrous induration in the female 263
Fractures, compound, on. By Sampson Gamgee 163
" " on the treatment of effusions of blood in cases of. By M. Bourguet 165
Funis, prolapsed, successful reduction of. By John Brunton, M.D 252
Fulsom, Dr., case of saw wound of the skull 172

Gamgee, Mr. Sampson, on compound fractures 163
Gant, Mr. F. G., on excision of the joints 164
Genital organs, on some of the functional derangements of the. By W. F. Teevan.. 208
Gent, Dr., on the therapeutical employment of compressed air in asthma and emphysema 138
Gentilhomme, Dr., case of fibroid of the uterus 276
Gerhardt, Dr., on the etiology and treatment of simple ulcer of the stomach 74
Goitre, exophthalmic, four cases of. By Samuel Wilks, M.D 23
Goodhart, Mr. J. F., thermometric observations in clinical medicine 136
Gout, a new method of treating. By M. Fontaine 25
Gouvéa, Dr. de, contributions to the pathology of burns of the cornea from lime 179
Graefe, Professor, further remarks upon the peripheral linear section for cataract... 180
" " on dynamic divergent strabismus 176
Gueneau de Mussy, M., on the signs of pericarditis 63
Guéniot, M., on the Cæsarean operation 155
Guyot, M., on the toxic value of certain products of the phenic group 134

Habershon, Dr., cases of diaphragmatic pleurisy, hæmatemesis, and spinal concussion 24
Hæmatemesis and perforating ulcer of the stomach. By George Johnson, M.D 73
Hæmoptysis, on. By George Johnson, M.D 58
Hæmostatics, on. By William Hargrave 139
Haining, Dr. W., treatment of tetanus 166
Hammond, Dr. William A., on spinal irritation 51
Hargrave, Mr. W., on hæmostatics 139
Haschisch, in hydrophobia. By Prof. Polli, of Milan 143
" the antidote for. By Professor Polli 106

PAGE

Haselberg, Dr. v., a case of death from peritonitis following an intra-uterine injection 256
Hawksley, Dr., on the stetho-sphygmograph 135
Head, clinical lecture on injuries of the. By James Paget, F.R S 170
Heart, specimen of congenital malformation of the. By R. H. Semple, M.D. 70
Heath, Mr. Christopher, on imperfect anus 214
Hemorrhage, on flexion as a means of arresting. By Dr. Adellmann 141
" cerebral, the pathology of. By MM. Charcot and Bouchard 10
" recurrent, on. By James Paget, F.R.S 157
Hernia, case of. By P. H. Watson, M.D., F.R.S 202
" clinical lecture on. By James Paget, F.R.S 199
" large femoral, in a male. By J. M. Bryan, M.D 200
" statistics of, from an etiological point of view. By Dr. Wernher 203
" strangulated femoral, in a man, operation after fifty-six hours. By C. H. Moore 201
Hervieux, Dr., on the etiology and treatment of puerperal metritis 269
" " on intra-uterine injections in the treatment of puerperal metritis 271
Heschel, M., two cases of "porencephalie" 14
Hicks, Dr. J. Braxton, on puerperal diseases 263
" Dr. Braxton, seven cases of successful version after failure of the forceps 251
Holt, Mr. Barnard, a case of popliteal aneurism treated by digital compression 229
Holthouse, Mr. C. H., case of inguino-crural rupture 204
Hooping-cough, observations on the treatment of certain complications of. By B. Brown, M.D 53
" oxide of silver in. By William Macfarlane, M.D 133
Hydrophobia, haschisch in. By Prof. Polli 143
Hysteria, acute, in the male, treatment of. By J. C. Althaus, M.D 44
Hysteric disease, an inquiry into the nature, origin, and treatment of. By Robert Lee, M.D 42

Induration, chancrous, in the female. By Dr. Fournier 263
Infantile disorders, notes on anointing in. By H. G. Knaggs, M.D 280
" palsy, on. By Richard Volkmann, M.D 279
Inflammation, carbuncular. By Thomas Smith 155
" and pyretic diseases, on the difference between. By Prof. Bouillaud 155
" on the morphological process in. By Prof. Billroth 32
Injections, intra-uterine, in the treatment of puerperal metritis. By Dr. Hervieux 271
Injection, intra-uterine, peritonitis and death following on. By Dr. Haselberg 256
Insane, the microscopic morbid appearances met with in the brains of the. By J. B. Tuke, M.D., and W. Rutherford, M.D 13
Insanity, the Morrisonian lectures on 49
Intussusception in an infant, remarkable case of. By J. W. Wilson, M.D., F.R.S.E. 213
Ipecacuanha, action and uses of. By C. D. Phillips, M.D 131
Iron, danger of injection of, in sanguineous tumors 120
Irritation, spinal. By William A. Hammond, M.D 51
Isnard, Dr., on the effects of arsenic in phthisis 116

Jeannel, M., on protoxide of nitrogen as an anæsthetic 125
Jenner, Sir Wm., Bart., on the treatment of scarlet fever 26
Joffroy, M., on endocardial ecchymosis in cerebral hemorrhage 66
Johnson, Dr. George, on hæmatemesis and perforating ulcer of the stomach 73
" " on hæmoptysis 58
" " on the indications for tracheotomy in cases of laryngitis and diphtheria 60

PAGE
Joints, on excision of. By F. J. Gant 164
Jolly M., on ulceration of the internal carotid artery in caries of the petrous portion of the temporal bone 190
Jordan, Mr. Furneaux, on counter-irritation in eye disease 185

Knaggs, Dr. H. G., notes on anointing in infantile disorders 280
Knee, on resection of the. By M. Pénières 234
" retro-curvation of the. By Louis Bauer, M.D. 235
Knee-joint, amputation at the, by modified lateral flaps. By Stephen Smith, M.D. 238
" on amputation at the. By G. D. Pollock 237
" on disease of the. By Thomas Bryant 233
Köhn, M., on the internal use of carbolic acid for syphilis 151
Kunkler, Dr., on cancerous affections 39

Laborde, M., on the dangers from the administration of chloral 109
Lactation, some remarks on. By M. Decaisne 262
Langenbeck, Prof., treatment of aneurism by the subcutaneous injection of ergotine 223
Larrey, Baron, when and when not to trephine 171
Larynx, on catheterism of the. By Dr. Weinlechner 188
Leaming, Dr. James R., on pleuritis 55
Lee, Dr. Robert, on the nature, origin, and treatment of hysteric disease 42
Lepine M., on the propagation of cancer and tubercle to the surface of the pleural serous membrane, and especially to the diaphragmatic pleura 34
Letherby, Dr., on the sewage question in relation to the public health 281
Leibreich M., on strychnine as an antidote to chloral 106
Lip, epithelioma of the 185
Lipp, M., on the treatment of psoriasis and chronic eczema 96
Lithotomy, observations on, and on certain cases of enlarged prostate. By Sir W. Fergusson, Bart., F.R.S. 193
" recto-vesical. By Louis Bauer, M.D. 198
Lithotrity and lithotomy. By Holmes Coote 196
Little, Dr. J. P., on hyposulphite and bisulphite of soda in intermittent fever 138
Liver, hydatid disease of the. By Stephen H. Ward, M.D. 75

Macfarlane, Dr., on the oxide of silver in whooping-cough 133
Mammary gland, on carcinoma of the. By W. S. Savory, F.R.S. 218
Malaria, hemorrhagic. By L. Michel, M.D. 41
Mapother, Dr. E. D., on metallic poisoning 99
Marmonier, Dr., on transfusion of blood 254
Martindale, Mr. W., on a solution of morphia for hypodermic injection 129
Mauriac, Mr., on the symptomatic reflex neuralgiæ of gonorrhœal orchi-epididymitis 197
Meric, Mr. Victor de, on induration in syphilis 169
Metritis, chronic, in its relation to malignant disease of the uterus. By E. Noeggerath, M.D. 273
" puerperal, on the etiology and treatment of. By Dr. Hervieux 269
" " on intra-uterine injections in the treatment of. By Dr. Hervieux 271
Methylene, bichloride of, death from 105
Methylic ether as an anæsthetic 127
Metro-cellulitis cases of. Under the care of Dr. Hall Davis 266
Miller, Dr. J. W., on the therapeutical value of the sulphites 120
Milne, Dr., note of a case of rigid os treated by hydrochlorate of apomorphia 250
Mitchell, Dr. Arthur, lectures on insanity 49
Mitchell, Dr. S. Weir, on the effect of opium and its derivative alkaloids 130

PAGE

Moore, Mr. C. H., case of strangulated femoral hernia in a man; operation after fifty-six hours—recovery 201
" the late, notes of a case of expansion of the antrum of Highmore 174
Morgan, Mr., on the treatment of constitutional syphilis by the use of creasote and carbolic acid 167
Morphia, on a solution of, for hypodermic injection. By Mr. W. Martindale 129
" and chloroform, on the combined action of. By Prof. Claude Bernard 128
Moura, M., on the differential characters of contagion and infection 18
Mouth and tongue, on tubercular ulceration of the. By M. Trélat 34
Moxon, Dr. Walter, on tetany, or remittent tetanus 53
Murchison, Dr. Charles, on relapsing fever 31
" " specimens of ulcer of the stomach 74
" " tapping of the chest in acute pleurisy 57

Nerves, digital, on some peculiar results of injury to. By W. M. Banks 221
Nervous system, on certain morbid changes in the, associated with diabetes. By W. H. Dickinson, M.D 79
Neuralgia, trophic disturbances in. By M. Nothnagel 49
Nitrogen, protoxide of, as an anæsthetic. By M. Jeannel 125
Noeggerath, Dr., on chronic metritis in its relation to malignant disease of the uterus 273
Nose, total loss of, through disease; rhinoplasty by a new method, successful result. Under the care of Mr. John Wood 173
Nothnagel, M., on trophic disturbances in neuralgia 49
Notta, Dr., on loss of smell 21
Nunn, M., fractures of the femur 239
" on acute orchitis 208
Nunneley, Dr. F. B., on the action of various substances in urine 148
Nussbaum, Prof., case of removal of the lower end of the rectum, with the prostate, prostatic urethra, and part of the neck of the bladder 217

Oakum as a surgical dressing 135
Œdema, experimental researches upon the production of. By M. Ranvier 18
Ogle, Dr. William, on anosmia 20
Oldright, Dr. G. S., case of poisoning by ergot 100
Ophthalmoscope, a self-illuminating. By Lionel Beale, F.R.S 135
Opium and its derivative alkaloids, on the effect of. By S. W. Mitchell, M.D 130
Orchitis, acute, treated by puncture. Under the care of Mr. Nunn 208
" gonorrhœal, on the treatment of. By Dr. Salleron 209
Orchi-epididymitis, on the symptomatic reflex neuralgiæ of. By M. Mauriac 197
Os, rigid, note of a case of, treated by hydrochlorate of apomorphia. By Dr. Milne 250
Ovariotomy, on points to be observed in. By D. L., Roberts, M.D 219
" remarks on a case of sudden death in which the patient was under the influence of chloroform. By the late Sir James Y. Simpson 103

Paget, Mr. James, on hernia 199
" " on injuries of the head 170
" " on periostitis 162
" " on recurrent hemorrhage 157
" " on the treatment of stricture 192
Palsy, infantile. By Richard Volkmann, M.D 279
Paralysis, on the treatment of. By A. D. Rockwell, M.D 50
" labio-glosso-laryngeal, five cases of. By Samuel Wilks, M.D 23
Passavant, Dr. G., on corelysis 179

PAGE
Patella, a case of compound fracture of the. By A. Poland 236
Patellæ, ligamentum, on the treatment of rupture of the. By Dr. Sistach 232
Paul, M. Constantin, on the use of the thermometer in typhoid fever 31
Pavy, Dr. F. W., on the treatment of diabetes 81
Péan, M., case of removal of the uterus and its appendages 218
Pégaitaz, Dr., on the subcutaneous application of veratrin 118
Pénières, M., on resection of the knee 234
Penis, on gangrene of the. By M. Demarquay 205
" and scrotum, on lymphatic varices of the. By M. Trélat 205
Pericarditis, on the signs of. By M. N. Guéneau de Mussy 63
Perineum, immediate treatment of contusion of the. By Stephen Rogers, M.D 207
Periostitis, lecture on. By James Paget, F.R.S 162
Peritonitis, a case of death from, following an intra-uterine injection. By Dr. v. Haselberg 256
Personne, M., on essence of turpentine as an antidote in cases of poisoning by phosphorus 102
Phenic group, on the toxic value of certain products of the. By M. Guyot 134
Phillips, Dr. C. D., on the action and uses of ipecacuanha 131
Phosphorus, employment of, in psoriasis 95
" turpentine, an antidote in cases of poisoning by 102
Phthisis, on the effects of arsenic in 116
" therapeutical use of arsenic in 117
Pick, Mr., case of salivary fistula 175
Placenta prævia, case of. Under the care of Mr. E. Adams 253
" " case of partial. By J. Cargill 252
Pleurisy, acute, tapping of the chest in. Under the care of Dr. Murchison 57
Pleuritis, on. By James R. Leaming, M.D 55
Poisoning, metallic. By E. D. Mapother, M.D 99
Polaillon, Prof., on the value of extirpation of the calcaneum 227
Poland, Mr. A., a case of compound fracture of the patella, with an analysis of fifty-six cases of that injury 236
Polli, Prof., on haschisch in hydrophobia 143
" on the antidote for haschisch 106
Pollock, Mr. G. D., on amputation at the knee-joint 237
Pope, Dr. B. A., on the extirpation of the fibro-cartilage of the upper eyelids for the cure of certain cases of entropion and trichiasis 178
"Porencephalie," two cases of. By M. Heschel 14
Potassa, permanganate of, in the treatment of certain female diseases. By A. M. Williams, M.D 183
Potassium, iodide of, absorption of, by the skin. By Dr. Ferrand 123
Pregnancy, with ovarian disease, on the complication of. By T. Spencer Wells 257
Prurigo, on. By Erasmus Wilson, F.R.S 94
Psoriasis, employment of phosphorus in. Under the care of Prof. Hardy 95
" and chronic eczema, on the treatment of. By M. Lipp 96
Puerperal convulsions, on. By J. Hall, Davis, M.D 265
" diseases, on. By J. Braxton Hicks, M.D., F.R.S 263
" fever, on. By Tyler Smith, M.D 254
" " By Wynn Williams 265
" metritis, on the etiology and treatment of. By Dr. Hervieux 269
" " on intra-uterine injections in. By Dr. Hervieux 271
Pus-globules, on the origin of. By MM. Vulpian and Hayem 35
Pyæmia, with singular eruptive symptoms 156
" arterial 23

PAGE

Quinine as an antipyretic 144

Rabuteau, Dr., on the properties and mode of elimination of the nitrites of sodium and potassium 142
Rachitis, on. By Holmes Coote 227
Ranvier, M., experimental researches upon the production of œdema 18
Rectum, on polypus and stricture of the. By Holmes Coote 215
" removal of the lower end of the, with the prostate, prostatic urethra, and part of the neck of the bladder. By Professor Nussbaum 217
Redwin, Mr. T. A., carbolic acid preparation 147
Reynolds, Dr. J. R., on the clinical uses of electricity 136
Richardson, Dr. B. W., on death by chloroform 104
" " on the production of rapid anæsthesia, and on a new anæsthetic compound for that purpose 123
" " methylic ether as an anæsthetic 127
" Dr. J. G., on the diagnostic value of the corpuscular blood-elements in the urine of Bright's disease 82
Rindfleisch, Prof., on the pathology of alopecia areata 98
Ringer, Dr. Sidney, on digitalis in heart disease 142
Roberts, Dr. D. L., on points to be observed in ovariotomy 219
Robinson, Mr., on scarlatina sine eruptione 27
Rockwell, Dr. A. D., on the treatment of paralysis 50
Rogers, Dr. Stephen, on the immediate treatment of contusion of the perineum, with laceration of the urethra 207
Routh, Dr., on fundal endometritis 268
" Dr. C. F., on the prevention and treatment of scarlet fever 25
Rupture, inguino-crural, case of. By C. H. Holthouse 204
Russell, Dr. James, report of a case of chorea during pregnancy 47
Rutherford, Dr., on the microscopic morbid appearances met with in the brains of the insane 13

Saint-Germain, M. de, on the application of electricity in labor 251
Salisbury, Dr., on the influence of nutriment on disease 41
Salleron, Dr., on the treatment of gonorrhœal orchitis 209
Sanson, Dr. Ernest, on the administration of anæsthetics 125
" " on the sulpho-carbolates in the treatment of certain diseases of children 279
Savory, Mr. W. Scovell, on carcinoma of the mammary gland 218
Sea-sickness, on. By Fordyce Barker, M.D 39
Sée, Dr., on the treatment of asthma by arsenic 117
Semple, Dr. Robert H., specimen of congenital malformation of the heart 70
Sewage question, on the, in relation to public health. By Henry Letheby 281
Seydewitz, the Baron Paul von, on the chloral treatment of eclampsia 110
Sibson, Dr., Croonian lectures on aneurism of the aorta 66
Simpson, Sir J. Y., Bart., the late, on a case of sudden death in ovariotomy while the patient was under the influence of chloroform 103
" " " " on chloral 112
Sistach, Dr., on the treatment of rupture of the ligamentum patellæ 232
Skin, constitutional treatment of diseases of the. By J. M'Call Anderson, M.D 92
" remarks on feigned or hysterical diseases of the. By J. Startin 87
Skull, recovery from saw-wound of the. By A. C. Fulsom, M.D 172
Smell, on loss of. By Dr. Notta 21
Smith, Dr. Hanbury, on mineral waters as therapeutic agents 150
" Dr. Tyler, report of a case of puerperal fever 254

PAGE

Smith, Mr. Edward, on the composition of chlorodyne 134
" Mr. Stephen, on amputation at the knee-joint by modified lateral flaps 238
" Mr. Thomas, on carbuncular inflammation 155
" " on nævoid elephantiasis 165
" Mr. W. Johnson, on certain points in the treatment of venereal disease 167
Soda, hyposulphite and bisulphite of, in intermittent fever. By J. P. Little, M.D... 138
Sodium and potassium, nitrites of, on the properties and the mode of elimination of the. By Dr. Rabuteau 142
Spender, Dr. J. K., on the local treatment of eczema rubrum 95
" " on the therapeutics of chronic constipation 70
Startin, Mr. James, on feigned or hysterical diseases of the skin 87
Steiner, Prof., clinical facts in reference to chorea 45
Stetho-sphygmograph, on the. By T. Hawksley, M.D. 135
Stomach, on the etiology and treatment of simple ulcer of the. By Dr. Gerhardt... 74
" specimens of ulcer of the. By C. Murchison, M.D., F.R.S. 74
Stone in the bladder, analysis of 184 cases of. By Sir Henry Thompson 210
Strabismus, dynamic divergent, operation for. By A. von Graefe 176
Stricture, the treatment of. By James Paget, F.R.S. 192
Sulphates, the therapeutical value of the. By J. W. Miller, M.D. 120
Sulpho-carbolates in the treatment of certain diseases of children. By Ernest Sansom, M.D. 279
Syphilis, case of, treated by the subcutaneous injection of the perchloride of mercury. Under the care of Dr. McCall Anderson 168
" on induration in. By V. de Meric 169
" on the internal use of carbolic acid for. By Dr. M. Köhn 151
" treatment of. By John Morgan 167
" " By Prof. Thiry 212

Tannin, the glycerine of. By Meredith Clymer, M.D. 122
Tarnier, M., on the Cæsarean operation 258
Taylor, Dr. A. S., the process for detecting blood in medico-legal cases 105
" Dr. Hibbert, on poisoning by extract of belladonna 101
Teevan, Mr. W. F., on some of the functional derangements of the male genital organs 208
Tendons, divided, on the reproduction and reunion of. By M. Demarquay 231
Tetanus, traumatic, a case of, treated successfully with douches and shampooing. By M. Brachet 166
" treatment of, by Calabar bean. By W. Haining, M.D. 166
Tetany, or remittent tetanus. By Walter Moxon, M.D. 53
Thomas, Dr. T. Gaillard, on the induction of premature delivery as a prophylactic resource in midwifery 240
Thermometric observations in clinical medicine. By J. F. Goodhart 136
Thiry, Prof., on syphilis 212
Thompson, Sir Henry, an analysis of 184 cases of stone in the bladder 210
Tongue, operations for the removal of epithelial cancer of the 186
Tonsils, on strangulation of the. By Dr. Houze de l'Aulnoit 174
Torsion, on. By Cooper Forster 160
Tracheotomy, a temporary 190
" the indications for, in cases of laryngitis and diphtheria. By George Johnson, M.D. 60
Trélat, M., on lymphatic varices of the penis and scrotum 205
" on tubercular ulceration of the mouth and tongue 34
Trephine, when and when not to. By Baron Larrey 171
Tuckwell, Dr. H. M., contributions to the pathology of chorea 46

PAGE

Tuke, Dr. J. B , on the microscopic morbid appearances met with in the brains of the insane. 13
Tumor, double scrotal, on left side. Under the care of Sir W. Fergusson, Bart., M.D. 204
Turpentine an antidote in cases of poisoning by phosphorus. By M. Personne. 102
Tyndall, Prof., on dust and disease 15

Urine, action of various substances in. By. F. B. Nunneley, M.D. 143
" on the treatment of incontinence of, in children and youth. By Sir J. D. Corrigan, Bart. 278
Uterus, absence of, in two sisters 267
" fibroid of the, repeated hemorrhages; transfusion; recovery. By Dr. Gentilhomme. 276
" on rupture of the. By Ewing Whittle, M.D. 277
" on the glands of the mucous membrane of the neck of the. By Dr. Després 267
" removal of the, and its appendages. By M. Péan 218

Vallin, M., on cerebral apoplexy, in cases of considerable pleuritic effusion 9
Venereal diseases, on certain points in the treatment of. By W. Johnson Smith. 167
Veratrin, on the employment of, in subcutaneous injections. By Dr. Pégaitaz. 118
Veratrum viride, on the alkaloids of, and their therapeutical effects. By Horatio Wood, M.D. 115
Verneuil, Dr., a case of multiple cysts of the ovary 259
Version, successful, after failure of the forceps. By J. B. Hicks, M.D. 251
Volkmann, Dr. Richard, on infantile palsy 279
Vulpian, M., on the origin of pus-globules 35

Waller, Dr. A., on the influence of chloroform in promoting cutaneous absorption 126
Ward, Dr. Stephen, on hydatid disease of the liver 75
Waters, mineral, as therapeutic agents. By Hanbury Smith, M.D. 150
Watson, Dr. P. H., case of sloughing hernia 202
Weber Dr. Adolph, on the local treatment of croup 62
Weinlechner, Dr., on catheterism of the larynx 188
Wells, Mr. J. Spencer, on the complication of pregnacy with ovarian disease 257
Wernher, Dr., statistics of hernia from an etiological point of view 203
Wertheim, Dr. on subcutaneous injection of bubo 209
Whittle, Dr. E., on rupture of the uterus 277
Whooping-cough, oxide of silver in. By W. Macfarlane, M.D. 133
Wilks, Dr. Samuel, select clinical cases, including cases of labio-glosso-laryngeal paralysis; exophthalmic goître; arterial pyæmia; general chronic arteritis; and Saturnine gout 23
Williams, Dr. A. M., on the treatment of certain female diseases by the permanganate of potassa 133
Wilson, Dr. J. G., remarkable case of intussusception in an infant 213
" Prof. Erasmus, lectures on dermatology at the College of Surgeons 83
" " " on prurigo 94
Wood, Mr. John, case of total loss of nose through disease; rhinoplasty by a new method; successful result 173
" Dr. Horatio, on the alkaloids of veratrum viride and their therapeutical effects 115

END OF VOL. LI.

BINDING LIST MAY 1 5 1932

P
Med.
H
268659
Author
Title Half-yearly abstract of the medical sciences
49-51,1869-70
Biological & Medical Serials
NAME OF BORROWER.

University of Toronto Library
Biological & Medical Serials
DO NOT REMOVE THE CARD FROM THIS POCKET
STORAGE
Acme Library Card Pocket
Under Pat. "Ref. Index File"
Made by LIBRARY BUREAU